

10/580,124-337515-EIC SEARCH

TEXT SEARCH

=> d his 187

(FILE 'HCAPLUS' ENTERED AT 15:24:14 ON 22 JUL 2010)

L87 25 S L86 OR L85
 SAV TEMP L85 SHE124HCP/A
 DEL SHE124REG/A

=> d que 187

L2 16 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON (12158-74-6/B
 I OR 125761-45-7/BI OR 25038-59-9/BI OR 62683-60-7/BI
 OR 79-10-7/BI OR 852929-90-9/BI OR 852929-92-1/BI OR
 852929-94-3/BI OR 852929-96-5/BI OR 852929-98-7/BI OR
 852930-00-8/BI OR 852930-02-0/BI OR 852930-04-2/BI OR
 852930-06-4/BI OR 9003-53-6/BI OR 9003-56-9/BI)

L5 1444541 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON (P(L)O(L)H)/E
 LS

L6 112923 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON CA/ELS

L7 5428 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L5(L)L6

L8 QUE SPE=ON ABB=ON PLU=ON 4/ELC.SUB

L9 318 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L7 AND L8

L10 15 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L9 AND CA3

L11 286 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L9 AND CA

L12 15 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L10 AND L11

L13 2 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L12 AND "CA
 . H O . O4 P"/MF

L14 3888 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON (?HYDROXIDE?(
 L)?PHOSPHATE?)/CNS

L15 4 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L12 AND L14

L16 580252 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON CU/ELS

L17 148 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L16(L)L7

L18 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L2 AND L17

L19 QUE SPE=ON ABB=ON PLU=ON 5/ELC.SUB

L22 14391 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L16(L)L5

L25 134 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L22(L)L8

L26 3 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L2 AND L25

L27 946628 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON FE/ELS

L28 446 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L22(L)L27

L29 16 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L28(L)L19

L30 2 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L2 AND L29

L31 426955 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON AL/ELS

L32 93759 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L16(L)L31

L33 15487 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L32(L)L19

L34 2 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L33 AND L2

L35 9 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L33 AND L14

L36 2 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L2 AND L35

L37 245550 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON ZN/ELS

L38 23200 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L37(L)L32

L39 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L2 AND L38

L40 254 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L22(L)L37

L41 34 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L40(L)L19

L42 2 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L2 AND L41

L43 176857 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON MG/ELS

L44 55 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L22(L)L43

L45 29 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L44 AND L19

L46 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L45 AND L2

L47 16 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L13 OR L15
 OR L26 OR L18 OR L30 OR L34 OR L36 OR L39 OR L42 OR
 L46

L48 16 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L47 AND L14

L49 108 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L48

L51 QUE SPE=ON ABB=ON PLU=ON MICRON OR MICROMET? OR .MU
 .M OR MU(W) (M OR METER OR METRE)

L52 4 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L49 AND L51

L53 QUE SPE=ON ABB=ON PLU=ON "PARTICLE SIZE"+ALL/CT

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L54 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L49 AND L53
 L56 10 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON MICRO? AND
 L49
 L57 105267 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON LTREQ(3A)2
 L58 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L57 AND L49
 L61 14 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L52 OR L54 OR
 L56 OR L58
 L62 QUE SPE=ON ABB=ON PLU=ON THERMOPLAST? OR THERM?(A)P
 LASTIC?
 L63 5 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L49 AND L62
 L64 QUE SPE=ON ABB=ON PLU=ON 0.001(3W)2
 L65 0 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L49 AND L64
 L66 QUE SPE=ON ABB=ON PLU=ON SCHERRER?
 L67 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L49 AND L66
 L68 QUE SPE=ON ABB=ON PLU=ON TRANSPAREN? OR CLEAR?
 L69 4 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L49 AND L68
 L70 QUE SPE=ON ABB=ON PLU=ON IR OR INFRARED? IR VISIBL?
 L71 11 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L49 AND L70
 L72 QUE SPE=ON ABB=ON PLU=ON WAVELENGTH OR NM OR NANOME
 T? OR NANO?(A) (METER OR METRE)
 L73 5 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L49 AND L72
 L76 31 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L52 OR L54 OR
 L56 OR L58 OR L61 OR L63 OR L65 OR L67 OR L69 OR L71
 OR L73
 L78 QUE SPE=ON ABB=ON PLU=ON PY=<2003 NOT P/DT
 L79 QUE SPE=ON ABB=ON PLU=ON (PY=<2003 OR PRY=<2003 OR
 AY=<2003 OR MY=<2003 OR REVIEW/DT) AND P/DT
 L80 22 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L76 AND (L78
 OR L79)
 L81 86 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L49 AND (L78
 OR L79)
 L82 QUE SPE=ON ABB=ON PLU=ON PARTICL? OR MICROPARTICL?
 OR PARTICULAT? OR DUST? OR GRIT? OR GRAIN# OR GRANUL? O
 R POWDER? OR SOOT? OR SMUT? OR FINES# OR PRILL? OR FLAK
 E# OR PELLET? OR BB#
 L83 QUE SPE=ON ABB=ON PLU=ON SIZ?(3A)L82
 L84 6 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L81 AND L83
 L85 25 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L80 OR L84
 L86 19 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON (?PHOSPHAT?(3A
)?HYDROX?) AND L85
 L87 25 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L86 OR L85

10/580,124-337515-EIC SEARCH

TEXT SEARCH RESULTS

=> d 187 1-25 ibib ed abs hitstr hitind

L87 ANSWER 1 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2005:493647 HCAPLUS Full-text
 DOCUMENT NUMBER: 143:27784
 TITLE: Production and use of ~~thermoplastics~~
 with high IR absorption
 INVENTOR(S): Hirthe, Bernd; Foehr, Kirsten; Bier, Thorsten;
 Saenger, Heike; Otremba, Andrea; Wedler,
 Michael
 PATENT ASSIGNEE(S): Sachtleben Chemie G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 24 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: ~~Patent~~
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2005052049	A1	20050609	WO 2004-EP13441	2004 1126

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,
 CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,
 ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,
 KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
 MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL,
 PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,
 TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
 ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH,
 CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT,
 LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG,
 CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 DE 10356334 A1 20050623 DE 2003-10356334
 2003
1128

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EP 1689810	A1	20060816	EP 2004-798094	2004 1126
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS
 CN 1886450 A 20061227 CN 2004-80035153
 2004
1126

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BR 2004017010	A	20070221	BR 2004-17010	2004 1126
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JP 2007512401	T	20070517	JP 2006-540396	2004 1126
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IN 2006CN01853	A	20070223	IN 2006-CN1853	2006 0526
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IN 229360	A1	20090320		
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KR 2007009540 A 20070118 KR 2006-712819 2006
0626

US 20070155881 A1 20070705 US 2006-580124 2006
0718

PRIORITY APPLN. INFO.: DE 2003-10356334 A 2003
1128

WO 2004-EP13441 W 2004
1126

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 10 Jun 2005

AB Thermoplastics which can be readily heated by (near) IR contain phosphates of Cu, Fe, Mn, Sb, Zn, Ti, Ni, Co, V, Mg, Bi, Be, Al, Ce, Ba, Sr, Na, K, Ge, Ga, Ca, Cr, In, or Sn of specified stoichiometry and, optionally, water of crystallization. Adding a solution of 100 g CuSO₄·5H₂O in 400 mL H₂O (temperature 75-85°) continuously to 105 g Na₃PO₄·12H₂O in 600 mL H₂O (75-85°) with strong stirring and stirring at 80° for 2 h gave Cu₂PO₄OH (I) with a good crystalline structure. The IR absorption of PET containing I is shown as a function of wavelength.

IT 12158-74-6P, Copper hydroxide phosphate (Cu₂(OH)(PO₄))

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(IR absorbers for use in thermoplastics)

RN 12158-74-6 HCAPLUS

CN Copper hydroxide phosphate (Cu₂(OH)(PO₄)) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Cu	2	7440-50-8

IT 62683-60-7, Copper hydroxide phosphate (Cu₅(OH)₄(PO₄)₂) 125761-45-7, Copper hydroxide phosphate (Cu₃(OH)₃(PO₄)) 852929-90-9, Copper iron hydroxide phosphate (CuFe₂(OH)₂(PO₄)₂)
852929-92-1 852929-94-3 852929-96-5
852929-98-7 852930-00-8 852930-02-0
852930-04-2 852930-06-4

RL: TEM (Technical or engineered material use); USES (Uses)
(IR absorbers for use in thermoplastics)

RN 62683-60-7 HCAPLUS

CN Copper hydroxide phosphate (Cu₅(OH)₄(PO₄)₂) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
HO	4	14280-30-9
O4P	2	14265-44-2
Cu	5	7440-50-8

RN 125761-45-7 HCAPLUS

CN Copper hydroxide phosphate (Cu₃(OH)₃(PO₄)) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
HO	3	14280-30-9
O4P	1	14265-44-2

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Cu | 3 | 7440-50-8

RN 852929-90-9 HCAPLUS

CN Copper iron hydroxide phosphate (CuFe₂(OH)₂(PO₄)₂) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
HO	2	14280-30-9
O4P	2	14265-44-2
Cu	1	7440-50-8
Fe	2	7439-89-6

RN 852929-92-1 HCAPLUS

CN Aluminum copper hydroxide phosphate (Al₄Cu₃(OH)₉(PO₄)₃), tetrahydrate (9CI) (CA INDEX NAME)

CM 1

CRN 852929-91-0

CMF Al . Cu . H O . O4 P

CCI TIS

CM 2

CRN 14280-30-9

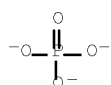
CMF H O

OH⁻

CM 3

CRN 14265-44-2

CMF O4 P



CM 4

CRN 7440-50-8

CMF Cu

Cu

CM 5

CRN 7429-90-5

CMF Al

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Al

RN 852929-94-3 HCAPLUS
CN Aluminum copper hydroxide phosphate (Al₃Cu₃(OH)₃(PO₄)₄),
tetrahydrate (9CI) (CA INDEX NAME)

CM 1

CRN 852929-93-2
CMF Al . Cu . H O . O4 P
CCI TIS

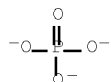
CM 2

CRN 14280-30-9
CMF H O

OH⁻

CM 3

CRN 14265-44-2
CMF O4 P



CM 4

CRN 7440-50-8
CMF Cu

Cu

CM 5

CRN 7429-90-5
CMF Al

Al

10/580,124-337515-EIC SEARCH

RN 852929-96-5 HCAPLUS
 CN Copper iron hydroxide phosphate (CuFe6(OH)8(PO4)4), tetrahydrate
 (9CI) (CA INDEX NAME)

CM 1

CRN 852929-95-4
 CMF Cu . Fe . H O . O4 P
 CCI TIS

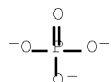
CM 2

CRN 14280-30-9
 CMF H O

OH⁻

CM 3

CRN 14265-44-2
 CMF O4 P



CM 4

CRN 7440-50-8
 CMF Cu

Cu

CM 5

CRN 7439-89-6
 CMF Fe

Fe

RN 852929-98-7 HCAPLUS
 CN Calcium copper hydroxide phosphate (CaCu6(OH)6(HPO4)(PO4)2),
 trihydrate (9CI) (CA INDEX NAME)

CM 1

10/580,124-337515-EIC SEARCH

CRN 852929-97-6
 CMF Ca . Cu . H O4 P . H O . O4 P
 CCI TIS

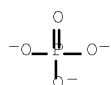
CM 2

CRN 14280-30-9
 CMF H O

OH⁻

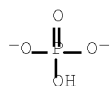
CM 3

CRN 14265-44-2
 CMF O4 P



CM 4

CRN 14066-19-4
 CMF H O4 P



CM 5

CRN 7440-70-2
 CMF Ca

Ca

CM 6

CRN 7440-50-8
 CMF Cu

Cu

10/580,124-337515-EIC SEARCH

RN 852930-00-8 HCAPLUS
CN Copper magnesium hydroxide phosphate (CuMg(OH)(PO4)), hydrate
(2:5) (CA INDEX NAME)

CM 1

CRN 852929-99-8
CMF Cu . H O . Mg . O4 P
CCI TIS

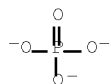
CM 2

CRN 14280-30-9
CMF H O

OH⁻

CM 3

CRN 14265-44-2
CMF O4 P



CM 4

CRN 7440-50-8
CMF Cu

Cu

CM 5

CRN 7439-95-4
CMF Mg

Mg

RN 852930-02-0 HCAPLUS
CN Copper zinc hydroxide phosphate (Cu0-2Zn1-3(OH)3(PO4)), dihydrate
(9CI) (CA INDEX NAME)

CM 1

10/580,124-337515-EIC SEARCH

CRN 852930-01-9
CMF Cu . H O . O4 P . Zn
CCI TIS

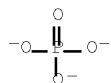
CM 2

CRN 14280-30-9
CMF H O

OH⁻

CM 3

CRN 14265-44-2
CMF O4 P



CM 4

CRN 7440-66-6
CMF Zn

Zn

CM 5

CRN 7440-50-8
CMF Cu

Cu

RN 852930-04-2 HCAPLUS
CN Copper zinc hydroxide phosphate (Cu0-5Zn1-6(OH)6(PO4)2),
monohydrate (9CI) (CA INDEX NAME)

CM 1

CRN 852930-03-1
CMF Cu . H O . O4 P . Zn
CCI TIS

CM 2

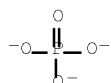
10/580,124-337515-EIC SEARCH

CRN 14280-30-9
CMF H O

OH⁻

CM 3

CRN 14265-44-2
CMF O4 P



CM 4

CRN 7440-66-6
CMF Zn

Zn

CM 5

CRN 7440-50-8
CMF Cu

Cu

RN 852930-06-4 HCAPLUS
CN Aluminum copper zinc hydroxide phosphate (Al₆(Cu,Zn)(OH)₈(PO₄)₄),
tetrahydrate (9CI) (CA INDEX NAME)

CM 1

CRN 852930-05-3
CMF Al . Cu . H O . O4 P . Zn
CCI TIS

CM 2

CRN 14280-30-9
CMF H O

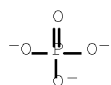
OH⁻

10/580,124-337515-EIC SEARCH

CM 3

CRN 14265-44-2

CMF O4 P



CM 4

CRN 7440-66-6

CMF Zn

Zn

CM 5

CRN 7440-50-8

CMF Cu

Cu

CM 6

CRN 7429-90-5

CMF Al

Al

IPCI C08K0003-00 [ICM,7]; C08K0003-04 [ICS,7]; C08G0063-00 [ICS,7]
 IPCR C08G0063-00 [I,C*]; C08G0063-00 [I,A]; C08K0003-00 [I,C*];
 C08K0003-00 [I,A]; C08K0003-04 [I,A]; C08K0003-32 [I,A]
 CC 38-3 (Plastics Fabrication and Uses)
 ST IR absorber use thermoplastic; PET IR
 absorber; metal hydroxide phosphate IR
 absorber; copper hydroxide phosphate
 IR absorber
 IT Polyamides, uses
 Polycarbonates, uses
 Polyesters, uses
 Polyoxyarylenes
 Polythioarylenes

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Polyurethanes, uses
 RL: POF (Polymer in formulation); USES (Uses)
 (IR absorbers for use in thermoplastics)

IT Optical materials
 (IR absorbers; IR absorbers for use in thermoplastics)

IT IR materials
 (absorbers; IR absorbers for use in thermoplastics)

IT Hydroxides (inorganic)
 Phosphates, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (metal hydroxide phosphates; IR absorbers for use in thermoplastics)

IT Acetals
 RL: POF (Polymer in formulation); USES (Uses)
 (polyacetals, nonpolymeric; IR absorbers for use in thermoplastics)

IT Vinyl compounds, uses
 RL: POF (Polymer in formulation); USES (Uses)
 (polymers; IR absorbers for use in thermoplastics)

IT Plastics, uses
 RL: POF (Polymer in formulation); USES (Uses)
 (thermoplastics; IR absorbers for use in thermoplastics)

IT 12158-74-6P, Copper hydroxide phosphate (Cu₂(OH)(PO₄))
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (IR absorbers for use in thermoplastics)

IT 79-10-7D, Acrylic acid, esters, polymers 9003-53-6 9003-56-9, ABS 25038-59-9, uses
 RL: POF (Polymer in formulation); USES (Uses)
 (IR absorbers for use in thermoplastics)

IT 62683-60-7, Copper hydroxide phosphate (Cu₅(OH)₄(PO₄)₂) 125761-45-7, Copper hydroxide phosphate (Cu₃(OH)₃(PO₄)) 852929-90-9, Copper iron hydroxide phosphate (CuFe₂(OH)₂(PO₄)₂)
 852929-92-1 852929-94-3 852929-96-5
 852929-98-7 852930-00-8 852930-02-0
 852930-04-2 852930-06-4
 RL: TEM (Technical or engineered material use); USES (Uses)
 (IR absorbers for use in thermoplastics)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L87 ANSWER 2 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2003:541803 HCAPLUS Full-text
 DOCUMENT NUMBER: 139:260756
 TITLE: Catalytic oxidation of olefins and alcohols by molecular oxygen under air pressure over Cu₂(OH)PO₄ and Cu₄O(PO₄)₂ catalysts
 AUTHOR(S): Meng, Xiangju; Lin, Kaifeng; Yang, Xiaoyu; Sun, Zhenhua; Jiang, Dazhen; Xiao, Feng-Shou
 CORPORATE SOURCE: Department of Chemistry & State Key Laboratory of Inorganic Synthesis and Preparative Chemistry, Jilin University, Changchun, 130023, Peop. Rep. China
 SOURCE: Journal of Catalysis (2003), 218(2), 460-464
 CODEN: JCTLA5; ISSN: 0021-9517
 PUBLISHER: Elsevier Science
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 139:260756

10/580,124-337515-EIC SEARCH

ED Entered STN: 16 Jul 2003

AB Catalytic oxidation of olefins (styrene and cyclohexene) and alcs. (benzyl alc. and cyclohexanol) under air pressure by mol. oxygen over $\text{Cu}_2(\text{OH})\text{PO}_4$ and $\text{Cu}_4\text{O}(\text{PO}_4)_2$ catalysts has been studied. The catalytic data show that these catalysts are very active in the catalytic oxidation of olefins and alcs. Adsorption of mol. oxygen on $\text{Cu}_2(\text{OH})\text{PO}_4$ and $\text{Cu}_4\text{O}(\text{PO}_4)_2$ catalysts shows a peak at 802 cm^{-1} in IR spectroscopy, assigned to adsorbed-oxygen species. Characterization of $\text{Cu}_2(\text{OH})\text{PO}_4$ and $\text{Cu}_4\text{O}(\text{PO}_4)_2$ catalysts with mol. oxygen in solvent by ESR spectra shows typical signals assigned to hydroxyl radicals, which may be responsible for the high catalytic activities of the catalysts.

IT 12158-74-6, Copper hydroxide phosphate

Cu₂(OH)PO₄

RL: CAT (Catalyst use); USES (Uses)

(catalytic oxidation of olefins and alcs. by mol. oxygen under air pressure over $\text{Cu}_2(\text{OH})\text{PO}_4$ and $\text{Cu}_4\text{O}(\text{PO}_4)_2$ catalysts)

RN 12158-74-6 HCAPLUS

CN Copper hydroxide phosphate (Cu₂(OH)(PO₄)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Cu	2	7440-50-8

CC 21-2 (General Organic Chemistry)

Section cross-reference(s): 24, 25

IT 12158-74-6, Copper hydroxide phosphate

Cu₂(OH)PO₄ 67115-40-6, Copper oxide phosphate Cu₄O(PO₄)₂

RL: CAT (Catalyst use); USES (Uses)

(catalytic oxidation of olefins and alcs. by mol. oxygen under air pressure over $\text{Cu}_2(\text{OH})\text{PO}_4$ and $\text{Cu}_4\text{O}(\text{PO}_4)_2$ catalysts)

OS.CITING REF COUNT: 27 THERE ARE 27 CAPLUS RECORDS THAT CITE THIS RECORD (27 CITINGS)

REFERENCE COUNT: 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L87 ANSWER 3 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2001:260089 HCAPLUS Full-text

DOCUMENT NUMBER: 135:131193

TITLE: Synthesis and Structure of Copper Hydroxyphosphate and Its High Catalytic Activity in Hydroxylation of Phenol by H₂O₂

AUTHOR(S): Xiao, Feng-Shou; Sun, Jianmin; Meng, Xiangju; Yu, Ranbo; Yuan, Hongming; Xu, Jianing; Song, Tianyou; Jiang, Dazhen; Xu, Ruren

CORPORATE SOURCE: Department of Chemistry and Key Laboratory of Inorganic Synthesis & Preparative Chemistry, Jilin University, Changchun, 130023, Peop. Rep. China

SOURCE: Journal of Catalysis (2001), 199(2), 273-281

CODEN: JCTLA5; ISSN: 0021-9517

PUBLISHER: Academic Press

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 Apr 2001

AB A complex oxide of $\text{Cu}_2(\text{OH})\text{PO}_4$ has been successfully synthesized by the hydrothermal method, and its structure was investigated by x-ray anal. Furthermore, the sample was characterized by thermal anal. (DTA and TG), and these results indicated that the sample was stable below 650° . After calcination at 850° , $\text{Cu}_2(\text{OH})\text{PO}_4$ was dehydrated to form $\text{Cu}_4\text{O}(\text{PO}_4)_2$. The sample isotherm for N₂ showed that there were no micropores or mesopores, and the surface area was only at $1.4\text{ m}^2/\text{g}$ when the particle size of the sample was 150 nm . Moreover, when this sample was used as a catalyst for phenol hydroxylation by H₂O₂, the catalytic data showed high activity, which was comparable to that of TS-1. Various factors that influence this catalytic reaction, such as solvent,

10/580,124-337515-EIC SEARCH

temperature, time, catalyst size, catalyst amount, molar ratio of phenol to H₂O₂, and mode of H₂O₂ addition, were investigated intensively. Addnl., this catalytic reaction was characterized by ESR, and it was found that on the Cu₂(OH)PO₄ catalyst hydroxyl radicals possibly resulting from Cu²⁺ and H₂O₂ were important intermediates for formation of pyrocatechol and hydroquinone. (c) 2001 Academic Press.

IT 12158-74-6P, Copper hydroxide
phosphate (Cu₂(OH)(PO₄))
RL: CAT (Catalyst use); PRP (Properties); RCT (Reactant); SPN
(Synthetic preparation); PREP (Preparation); RACT (Reactant or
reagent); USES (Uses)
(preparation, crystal structure, dehydration and catalytic activity
in hydroxylation of phenol by H₂O₂)
RN 12158-74-6 HCAPLUS
CN Copper hydroxide phosphate (Cu₂(OH)(PO₄)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Cu	2	7440-50-8

CC 78-5 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 67
ST hydroxyphosphate copper prepn catalyst
hydroxylation phenol; crystal structure copper
hydroxide phosphate; copper hydroxide
phosphate prepn structure hydroxylation
catalyst; hydroxylation catalyst phenol copper hydroxide
phosphate
IT 12158-74-6P, Copper hydroxide
phosphate (Cu₂(OH)(PO₄))
RL: CAT (Catalyst use); PRP (Properties); RCT (Reactant); SPN
(Synthetic preparation); PREP (Preparation); RACT (Reactant or
reagent); USES (Uses)
(preparation, crystal structure, dehydration and catalytic activity
in hydroxylation of phenol by H₂O₂)
OS.CITING REF COUNT: 30 THERE ARE 30 CAPLUS RECORDS THAT CITE
THIS RECORD (30 CITINGS)
REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L87 ANSWER 4 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2001:92252 HCAPLUS Full-text
DOCUMENT NUMBER: 134:316633
TITLE: A novel catalyst of copper hydroxyphosphate
with high activity in wet oxidation of
aromatics
AUTHOR(S): Xiao, F.-S.; Sun, J.; Meng, X.; Yu, R.; Yuan,
H.; Jiang, D.; Qiu, S.; Xu, R.
CORPORATE SOURCE: Department of Chemistry & Key Laboratory of
Inorganic Synthesis and Preparative Chemistry,
Jilin University, Changchun, 130023, Peop.
Rep. China
SOURCE: Applied Catalysis, A: General (2001
, 207(1,2), 267-271
CODEN: ACAGE4; ISSN: 0926-860X
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 08 Feb 2001

AB A novel catalyst of copper hydroxyphosphate (Cu₂(OH)PO₄) that has neither microporous
nor mesoporous pores was successfully synthesized by a hydrothermal method. Catalytic
data in the hydroxylation of phenol, benzene and naphthol by hydrogen peroxide showed
that copper hydroxyphosphate is a very active catalyst. Comparison of various
catalysts on phenol hydroxylation suggests that the unusual catalytic activity on the

10/580,124-337515-EIC SEARCH

Cu₂(OH)PO₄ catalyst may be dependent on the unique structure of as-synthesized Cu₂(OH)PO₄. Characterization of catalytic phenol hydroxylation over Cu₂(OH)PO₄ catalyst by ESR (ESR) gives very strong signals assigned to hydroxyl radical (•OH) species, the intensities of which are linearly related to the catalytic conversion, suggesting that hydroxyl radicals are important intermediates in the catalysis.

IT 12158-74-6, Copper hydroxide phosphate
(Cu₂(OH)(PO₄))

RL: CAT (Catalyst use); PRP (Properties); USES (Uses)
(catalyst of copper hydroxyphosphate with high activity in wet
oxidation of aroms.)

RN 12158-74-6 HCAPLUS

CN Copper hydroxide phosphate (Cu₂(OH)(PO₄)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Cu	2	7440-50-8

CC 67-2 (Catalysis, Reaction Kinetics, and Inorganic Reaction
Mechanisms)

Section cross-reference(s): 25

IT 1321-67-1, Naphthol 12158-74-6, Copper
hydroxide phosphate (Cu₂(OH)(PO₄))

RL: CAT (Catalyst use); PRP (Properties); USES (Uses)
(catalyst of copper hydroxyphosphate with high activity in wet
oxidation of aroms.)

OS.CITING REF COUNT: 25 THERE ARE 25 CAPLUS RECORDS THAT CITE
THIS RECORD (25 CITINGS)
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L87 ANSWER 5 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2000:568319 HCAPLUS Full-text

DOCUMENT NUMBER: 133:257415

TITLE: A novel catalyst of copper hydroxyphosphate
(Cu₂(OH)PO₄) with high activity in
hydroxylation of phenol by hydrogen peroxide

AUTHOR(S): Xiao, Feng-Shou; Sun, Jianmin; Yu, Ranbo;
Meng, Xiangju; Yuan, Hongming; Jiang, Dazhen;
Xu, Ruren

CORPORATE SOURCE: Department of Chemistry, Jilin University,
Changchun, 130023, Peop. Rep. China

SOURCE: Studies in Surface Science and Catalysis (
2000), 130A(International Congress on
Catalysis, 2000, Pt. A), 791-796
CODEN: SSCTDM; ISSN: 0167-2991

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 17 Aug 2000

AB A novel catalyst of copper hydroxyphosphate (Cu₂(OH)PO₄) that has not microporous and mesoporous pores (surface area <0.01 m²/g) has been successfully synthesized from hydrothermal method by using ethylenediamine, phosphoric acid, and copper acetate. Catalytic data in hydroxylation of phenol by hydrogen peroxide as a model reaction for oxidation catalysis showed that the copper hydroxyphosphate is very active catalyst, and its activity is even higher than that of microporous TS-1 catalyst that is known as one of the most effective catalysts. Furthermore, we observed that the Cu₂(OH)PO₄ catalyst is readily regenerable to its active state by recalcining the expired form in air. Comparison of various catalysts suggests that the unusual catalytic activity on the Cu₂(OH)PO₄ catalyst may be related to unique structure of as-synthesized Cu₂(OH)PO₄. Characterization of catalytic process by ESR method gives very strong signals assigned to radical OH species, showing their possible catalytic mechanism.

IT 12158-74-6P, Copper hydroxide

10/580,124-337515-EIC SEARCH

phosphate (Cu₂(OH)(PO₄))

RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(catalyst of copper hydroxyphosphate (Cu₂(OH)PO₄) with high activity in hydroxylation of phenol by hydrogen peroxide)

RN 12158-74-6 HCAPLUS

CN Copper hydroxide phosphate (Cu₂(OH)(PO₄)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Cu	2	7440-50-8

CC 67-2 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)

Section cross-reference(s): 25

ST copper hydroxyphosphate catalyst hydroxylation phenol

IT 12158-74-6P, Copper hydroxide

phosphate (Cu₂(OH)(PO₄))

RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(catalyst of copper hydroxyphosphate (Cu₂(OH)PO₄) with high activity in hydroxylation of phenol by hydrogen peroxide)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L87 ANSWER 6 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1999:806677 HCAPLUS Full-text

DOCUMENT NUMBER: 132:187756

TITLE: Crystallization of some heavy-metal phosphates alone and in the presence of calcium ion

AUTHOR(S): Ayati, M.; Lundager Madsen, H. E.

CORPORATE SOURCE: Chemistry Department, Royal Veterinary and Agricultural University, Frederiksberg, DK-1871, Den.

SOURCE: Journal of Crystal Growth (2000), 208(1-4), 579-591

CODEN: JCRGAE; ISSN: 0022-0248

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 22 Dec 1999

AB Crystallization of Cd, Pb and Cu phosphates at 5 and 37° was studied. Cd phosphate is found exclusively as Cd₅H₂(PO₄)₄·4H₂O. With increasing pH the morphol. changes from regular prismatic crystals to twins, aggregates and dendrites. Mixed crystals are formed with Ca substitution up to 75%. Solubility decreases with increasing Ca substitution. Lead phosphate is found mainly as PbHPO₄, but at high pH Pb₅OH(PO₄)₃ is dominating as very small crystals. Those of PbHPO₄ are elongated tabular and rather irregular. Aggregates are frequent at low pH and highly irregular crystals otherwise. Ca reduces irregularities and aggregation. The degree of Ca substitution is lower than in the other systems studied. No effect of Ca on solubility or IR spectra was observed. The Cu system yielded Cu₃(OH)₃PO₄ and CuNH₄PO₄ at 5°, but Cu₂OHPO₄ at 37°. Ca increases crystal size markedly. Ca substitution at 37° ranges from 14 to 55%.

IT 12158-74-6, Copper hydroxide phosphate

(Cu₂(OH)(PO₄)) 125761-45-7, Copper hydroxidephosphate (Cu₃(OH)₃(PO₄))

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(crystallization of heavy-metal phosphates alone and in presence of calcium ion)

RN 12158-74-6 HCAPLUS

CN Copper hydroxide phosphate (Cu₂(OH)(PO₄)) (CA INDEX NAME)

10/580,124-337515-EIC SEARCH

Component	Ratio	Component
		Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Cu	2	7440-50-8

RN 125761-45-7 HCAPLUS

CN Copper hydroxide phosphate (Cu₃(OH)₃(PO₄)) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
HO	3	14280-30-9
O4P	1	14265-44-2
Cu	3	7440-50-8

CC 75-1 (Crystallography and Liquid Crystals)

IT ~~12158-74-6, Copper hydroxide phosphate~~(Cu₂(OH)(PO₄)) ~~12207-55-5, Lead hydroxide~~~~phosphate (Pb₅(OH)(PO₄)₃) 15845-52-0, Lead phosphate~~~~(PbHPO₄) 15928-74-2, Ammonium copper phosphate ((NH₄)CuPO₄)~~~~15955-72-3 125761-45-7, Copper hydroxide~~~~phosphate (Cu₃(OH)₃(PO₄))~~

RL: PEP (Physical, engineering or chemical process); PRP

(Properties); PROC (Process)

(crystallization of heavy-metal phosphates alone and in presence of calcium ion)

OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS RECORD (11 CITINGS)

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L87 ANSWER 7 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1998:599356 HCAPLUS Full-text

DOCUMENT NUMBER: 129:218031

ORIGINAL REFERENCE NO.: 129:44287a,44290a

TITLE: High-solid infrared absorbing coating compositions

INVENTOR(S): Chiang, Chwan-hwa Peter; Dawson, William Roland; Kinney, Layton Fredrick; Sherman, Charles J.

PATENT ASSIGNEE(S): The Sherwin-Williams Co., USA

SOURCE: U.S., 8 pp., Division of U. S. Ser. No. 797,261.

CODEN: USXXAM

DOCUMENT TYPE: ~~Patent~~

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5800861	A	19980901	US 1988-288713	1988 1228

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PRIORITY APPLN. INFO.:	US 1985-766158	A2	1985 0815
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	US 1985-797261	A3	1985 1112
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10/580,124-337515-EIC SEARCH

ED Entered STN: 22 Sep 1998

AB Title compns. with low gloss and low reflectance of electromagnetic radiation in the near IR region (0.7-2.5 μ m wavelength), comprise 5-50 parts volatile solvent portion containing ≥ 1 inert organic solvent and 50-95 parts nonvolatile portion containing (a) ≥ 1 active-hydrogen functional polymer with number average mol. weight < 6000 (e.g., polycaprolactone polyol), (b) polymeric beads dispersed within the polymer, (c) ≥ 1 IR radiation absorbing pigment selected from copper phosphate, basic copper phosphate, copper pyrophosphate and tungsten trioxide, which is incorporated in the polymeric beads, and (d) a crosslinking agent (e.g. polyisocyanate).

IT 53572-65-9P, Calcium hydroxide phosphate (Ca₃(OH)₃(PO₄))
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use);
 PRP (Properties); PREP (Preparation); USES (Uses)
 (IR absorbing pigment; high-solid IR absorbing coating compns.)

RN 53572-65-9 HCAPLUS

CN Calcium hydroxide phosphate (Ca₃(OH)₃(PO₄)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	3	14280-30-9
O4P	1	14265-44-2
Ca	3	7440-70-2

INCL 427160000

IPCI B05D0005-06 [ICM,6]; C08K0003-32 [ICS,6]; C08K0003-00 [ICS,6,C*]

IPCR C09D0005-32 [I,C*]; C09D0005-32 [I,A]

NCL 427/160.000; 252/587.000; 252/600.000; 427/385.500; 427/393.500;
 521/062.000; 521/067.000; 521/076.000; 523/135.000

CC 42-10 (Coatings, Inks, and Related Products)

ST coating compn solid IR absorbing; polyurethane pigmented polyester styrene bead coating; copper phosphate IR absorbing pigment; pyrophosphate copper pigment coating gloss; tungsten trioxide pigment coating reflectance

IT Pigments, nonbiological
 (IR absorbing; high-solid IR absorbing coating compns.)

IT Polyesters, uses
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (beads; high-solid IR absorbing coating compns.)

IT Coating materials
 (high-solids; high-solid IR absorbing coating compns.)

IT Polyurethanes, uses
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyester-; high-solid IR absorbing coating compns.)

IT Polyurethanes, uses
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyester-polyether-; high-solid IR absorbing coating compns.)

IT Polyurethanes, uses
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyether-; high-solid IR absorbing coating compns.)

IT Polyesters, uses
 RL: IMF (Industrial manufacture); POF (Polymer in formulation);
 PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

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(unsatd., polymers with styrene; high-solid IR
absorbing coating compns.)
IT 53572-65-9P, Calcium hydroxide
phosphate (Ca3(OH)3(PO4))
RL: IMF (Industrial manufacture); MOA (Modifier or additive use);
PRP (Properties); PREP (Preparation); USES (Uses)
(IR absorbing pigment; high-solid IR
absorbing coating compns.)
IT 1314-35-8, Tungsten trioxide, uses 10102-90-6, Copper
pyrophosphate 30981-48-7, Copper phosphate
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(IR absorbing pigment; high-solid IR
absorbing coating compns.)
IT 32912-59-7P, Fumaric acid-phthalic anhydride-propylene
glycol-styrene copolymer 212383-71-6P 212383-72-7P
RL: IMF (Industrial manufacture); POF (Polymer in formulation);
PRP (Properties); TEM (Technical or engineered material use); PREP
(Preparation); USES (Uses)
(beads; high-solid IR absorbing coating compns.)
IT 100-42-5DP, polymers with unsatd. polyesters 116039-09-9P
212254-58-5P 212254-59-6P 212254-60-9P 212254-61-0P
212254-62-1P
RL: IMF (Industrial manufacture); POF (Polymer in formulation);
PRP (Properties); TEM (Technical or engineered material use); PREP
(Preparation); USES (Uses)
(high-solid IR absorbing coating compns.)
IT 497-19-8, Sodium carbonate, reactions 7664-38-2, Phosphoric
acid, reactions 7758-99-8, Cupric sulfate pentahydrate
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of IR absorbing pigment for high-solid
coating compns.)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE
THIS RECORD (1 CITINGS)
REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

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L87 ANSWER 8 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1998:300550 HCAPLUS Full-text
DOCUMENT NUMBER: 129:10690
ORIGINAL REFERENCE NO.: 129:2227a
TITLE: Laser imaging element
INVENTOR(S): Lambert, Patrick M.; Trauernicht, David P.;
Bringley, Joseph F.
PATENT ASSIGNEE(S): Eastman Kodak Company, USA
SOURCE: U.S., 9 pp.
CODEN: USXXAM
DOCUMENT TYPE: ~~Patent~~
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 5750318	A	19980512	US 1996-767054	1996 1216
			<--	
RITY APPLN. INFO.:			US 1996-767054	1996 1216

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 22 May 1998

AB A laser thermal recording element comprises a support having thereon a pigment layer comprising a pigment dispersed in a polymeric binder, the pigment absorbing at the

10/580,124-337515-EIC SEARCH

wavelength of a laser used to expose the element, wherein the pigment comprises the formula $\text{Cu}_2\text{-xMx(OH)yRz:M'w}$ wherein M is at least one metal atom; M' is at least one alkali metal; R is at least one anion; w is between 0 and 2; x is between 0 and 1.5; y and z are selected to maintain charge neutrality, with the proviso that w, x and z cannot all be 0.

IT 12158-74-6, Copper hydroxide phosphate
($\text{Cu}_2(\text{OH})(\text{PO}_4)$)
RL: TEM (Technical or engineered material use); USES (Uses)
(laser thermal recording materials containing)
RN 12158-74-6 HCAPLUS
CN Copper hydroxide phosphate ($\text{Cu}_2(\text{OH})(\text{PO}_4)$) (CA INDEX NAME)

Component	Ratio	Component	Registry Number
HO	1		14280-30-9
O4P	1		14265-44-2
Cu	2		7440-50-8

INCL 430346000
IPCI G03C0001-494 [ICM,6]; G03C0001-705 [ICS,6]; G03C0001-67 [ICS,6];
G03C0001-64 [ICS,6]
IPCR B41M0005-26 [I,C*]; B41M0005-26 [I,A]
NCL 430/346.000; 430/270.160; 430/495.100; 430/541.000; 430/616.000;
430/944.000; 430/964.000; 524/403.000; 524/406.000; 524/413.000
CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
IT 12158-74-6, Copper hydroxide phosphate
($\text{Cu}_2(\text{OH})(\text{PO}_4)$) 66431-13-8 207505-80-4
RL: TEM (Technical or engineered material use); USES (Uses)
(laser thermal recording materials containing)
OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE
THIS RECORD (2 CITINGS)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L87 ANSWER 9 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1997:270596 HCAPLUS Full-text
DOCUMENT NUMBER: 126:252333
ORIGINAL REFERENCE NO.: 126:48765a,48768a
TITLE: Using laser-inscribable labels for marking
rubber parts, especially tires
INVENTOR(S): Koops, Arne; Ofer, Ulrich; Kuelper, Klaus;
Kreft, Christian
PATENT ASSIGNEE(S): Beiersdorf A.-G., Germany
SOURCE: Ger. Offen., 8 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19531332	A1	19970227	DE 1995-19531332	1995 0825
EP 760297	A2	19970305	EP 1996-112586	1996 0803
EP 760297	A3	19970611		
EP 760297	B1	19991201		

R: DE, ES, FR, GB, IT, SE

10/580,124-337515-EIC SEARCH

ES 2140767 T3 20000301 ES 1996-112586 1996
0803

JP 09068924 A 19970311 JP 1996-235765 1996
0820

PRIORITY APPLN. INFO.: DE 1995-19531332 A 1995
0825

ED Entered STN: 28 Apr 1997

AB Labels such as barcode labels comprise a carrier layer based on a vulcanizable light-colored rubber composition containing a additive that changes color in laser light (such as Cu(II) hydroxide phosphate or coated pearlescent pigment), which is vulcanizable along with the rubber part. The carrier layer is optionally covered with a protective layer transparent to visible and IR radiation, a pressure-sensitive adhesive layer for temporary bonding of the label to the rubber part before vulcanization, and a release sheet on the adhesive layer. All the sides of the carrier layer except the side to be irradiated with the laser may be coated with a barrier layer to prevent migration of plasticizers and similar materials out of the label.

IT 12158-74-6, Copper hydroxide phosphate
(Cu₂(OH)(PO₄))

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(laser-sensitive compound; using laser-inscribable vulcanizable labels for marking rubber parts, especially tires)

RN 12158-74-6 HCAPLUS

CN Copper hydroxide phosphate (Cu₂(OH)(PO₄)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Cu	2	7440-50-8

IPCI G09F0003-02 [ICM,6]; G09F0003-04 [ICS,6]; B60C0001-00 [ICA,6];
C08J0003-24 [ICA,6]; C08J0007-00 [ICA,6]; C08L0009-06 [ICI,6];
C08L0009-00 [ICI,6,C*]; C08L0023-16 [ICI,6]; C08L0023-22 [ICI,6];
C08L0023-00 [ICI,6,C*]; B32B0025-08 [ICA,6]; B32B0025-00
[ICA,6,C*]; B32B0027-36 [ICA,6]; B32B0027-34 [ICA,6]; B32B0027-32
[ICA,6]

IPCR B60C0019-00 [I,C*]; B60C0019-00 [I,A]; B32B0025-00 [I,C*];
B32B0025-04 [I,A]; B32B0025-08 [I,A]; B60C0013-00 [I,C*];
B60C0013-00 [I,A]; B65C0003-00 [I,C*]; B65C0003-26 [I,A];
G09F0003-00 [I,C*]; G09F0003-00 [I,A]; G09F0003-02 [I,C*];
G09F0003-02 [I,A]; G09F0003-04 [I,C*]; G09F0003-04 [I,A]

CC 39-13 (Synthetic Elastomers and Natural Rubber)

ST laser inscribable vulcanizable barcode label tire; pearlescent
pigment label tire; copper hydroxide phosphate
contg label tire

IT 12158-74-6, Copper hydroxide phosphate
(Cu₂(OH)(PO₄))

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(laser-sensitive compound; using laser-inscribable vulcanizable labels for marking rubber parts, especially tires)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE
THIS RECORD (2 CITINGS)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L87 ANSWER 10 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1997:124379 HCAPLUS Full-text

10/580,124-337515-EIC SEARCH

DOCUMENT NUMBER: 126:132208
ORIGINAL REFERENCE NO.: 126:25541a,25544a
TITLE: Coated pigments as fillers for laser-markable plastics
INVENTOR(S): Schmidt, Christoph; Reynders, Peter; Schoen, Sabine
PATENT ASSIGNEE(S): Merck Patent Gmbh, Germany
SOURCE: Eur. Pat. Appl., 6 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 750012	A1	19961227	EP 1996-109256	1996 0610
<--				
R: DE, ES, FI, FR, GB, IT DE 19522397	A1	19970102	DE 1995-19522397	1995 0623
<--				
BR 9602842	A	19980422	BR 1996-2842	1996 0619
<--				
CA 2179698	A1	19961224	CA 1996-2179698	1996 0621
<--				
JP 09012776	A	19970114	JP 1996-179860	1996 0621
<--				
CN 1144230	A	19970305	CN 1996-108795	1996 0621
<--				
US 5928780	A	19990727	US 1996-668146	1996 0621
<--				
TW 383323	B	20000301	TW 1996-85107482	1996 0621
<--				
PRIORITY APPLN. INFO.:			DE 1995-19522397	A 1995 0623

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 24 Feb 1997

AB Plastics which can be marked by lasers with high contrast are filled with non-glossy, layered silicate pigments, having rough surfaces, which are coated with oxides, Iron Blue, and/or basic Cu phosphate. Dry-milled mica (95% with average diameter <24 μ m) was coated with 50% Turnbull's Blue by precipitation in H₂O. Polypropylene containing 0.5% this mica gave injection moldings which could be marked by a CO₂ laser (energy d. .apprx.3 J/cm²) with high contrast.

IT 12158-74-S, Copper hydroxide phosphate (Cu₂(OH)(PO₄))

RL: TEM (Technical or engineered material use); USES (Uses)
(coating; coated pigments as fillers for laser-markable

10/580,124-337515-EIC SEARCH

plastics)
 RN 12158-74-6 HCAPLUS
 CN Copper hydroxide phosphate (Cu₂(OH)(PO₄)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Cu	2	7440-50-8

IPCI C08K0009-02 [ICM,6]; C08K0009-00 [ICM,6,C*]
 IPCR B41M0005-00 [I,C*]; B41M0005-00 [I,A]; B41M0005-26 [I,C*];
 B41M0005-26 [I,A]; C08K0003-00 [I,C*]; C08K0003-10 [I,A];
 C08K0003-32 [I,A]; C08K0003-34 [I,A]; C08K0009-00 [I,C*];
 C08K0009-00 [I,A]; C08K0009-02 [I,A]; C08L0023-00 [I,C*];
 C08L0023-00 [I,A]; C08L0023-02 [I,A]; C08L0101-00 [I,C*];
 C08L0101-00 [I,A]; C09C0001-28 [I,C*]; C09C0001-28 [I,A]
 CC 37-6 (Plastics Manufacture and Processing)
 IT 1309-64-4, Antimony oxide (Sb₂O₃), uses 1310-39-0,
 Pseudobrookite 12158-74-6, Copper hydroxide
 phosphate (Cu₂(OH)(PO₄)) 13463-67-7, Titanium dioxide,
 uses 18282-10-5, Tin dioxide 65505-26-2, C.I. Pigment Green 16
 RL: TEM (Technical or engineered material use); USES (Uses)
 (coating; coated pigments as fillers for laser-markable
 plastics)
 OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE
 THIS RECORD (6 CITINGS)

L87 ANSWER 11 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1996:365490 HCAPLUS Full-text
 DOCUMENT NUMBER: 125:45171
 ORIGINAL REFERENCE NO.: 125:8495a,8498a
 TITLE: Method for marking molded bodies using copper
 phosphate as additive
 INVENTOR(S): Welz, Martin; Prissok, Frank
 PATENT ASSIGNEE(S): Elastogran Gmbh, Germany
 SOURCE: Eur. Pat. Appl., 10 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 706897	A1	19960417	EP 1995-115822	1995 1007
EP 706897	B1	19970917	<--	
R: BE, DE, FR, GB, NL				
DE 4436897	A1	19960418	DE 1994-4436897	1994 1015
US 5630979	A	19970520	US 1995-542186	1995 1012
PRIORITY APPLN. INFO.:			DE 1994-4436897	A 1994 1015

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
 ED Entered STN: 25 Jun 1996

10/580,124-337515-EIC SEARCH

AB The title method involves a process for adding Cu phosphate additives to a thermoplastic polyurethane elastomer or its ≤45 % mixture for improving inscribe-ability and a process for UV laser-irradiation The method provided molded bodies with high contrast, good contour shape and good abrasion-resistance.

IT 12158-74-6, Copper hydroxide phosphate (Cu₂(OH)(PO₄)) 125761-45-7, Copper hydroxide phosphate (Cu₃(OH)₃(PO₄))
 RL: MOA (Modifier or additive use); USES (Uses)
 (additive to photosensitive layer for making molded bodies)

RN 12158-74-6 HCAPLUS

CN Copper hydroxide phosphate (Cu₂(OH)(PO₄)) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Cu	2	7440-50-8

RN 125761-45-7 HCAPLUS

CN Copper hydroxide phosphate (Cu₃(OH)₃(PO₄)) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
HO	3	14280-30-9
O4P	1	14265-44-2
Cu	3	7440-50-8

IPCI B41M0001-30 [ICM,6]; B41M0001-26 [ICM,6,C*]; C08K0003-32 [ICS,6]; C08K0003-00 [ICS,6,C*]

IPCR B41M0005-26 [I,C*]; B41M0005-26 [I,A]; C08K0003-00 [I,C*]; C08K0003-32 [I,A]

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 38

ST thermoplastic polyurethane elastomer copper phosphate additive

IT 7631-86-9, Silica, uses 12158-74-6, Copper hydroxide phosphate (Cu₂(OH)(PO₄)) 13463-67-7, Titanium dioxide, uses 18282-10-5, Tin oxide (SnO₂) 125761-45-7, Copper hydroxide phosphate (Cu₃(OH)₃(PO₄)) 177969-12-9
 RL: MOA (Modifier or additive use); USES (Uses)
 (additive to photosensitive layer for making molded bodies)

OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)

L87 ANSWER 12 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1995:761391 HCAPLUS Full-text

DOCUMENT NUMBER: 123:339085

ORIGINAL REFERENCE NO.: 123:60859a,60862a

TITLE: Laser-stimulated oxidative coupling of ethanol

AUTHOR(S): Kang, Qinghua; Zhong, Shunhe

CORPORATE SOURCE: Department Chemical Engineering, Tianjin University, Tianjin, 300072, Peop. Rep. China

SOURCE: Yingyong Huaxue (1995), 12(3), 18-22
 CODEN: YIHUED; ISSN: 1000-0518

PUBLISHER: Yingyong Huaxue Bianji Weiyuanhui

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

ED Entered STN: 26 Aug 1995

AB The oxidative coupling of ethanol stimulated by CO₂ laser on the surface of Cu₂(PO₄)(OH) and Pb₃(PO₄)₂ has been studied using XRD and IR techniques. The results showed that the distribution of reaction products depends strongly on the chemisorption types of ethanol. 1,4-Butanediol was formed via the methyl-adsorbed ethanol mols.,

10/580,124-337515-EIC SEARCH

while the hydroxyl-adsorbed one gave ethene. The vibrational structures of the surface of solid materials are the basic factor affecting the efficiency of laser photon energy. The higher efficiency of laser photon energy in the case of libethenite appeared due to the greater difference in frequencies between P:O and O-Cu-O bonds.

IT 12158-74-6, Copper hydroxide phosphate
(Cu₂(OH)(PO₄))
RL: CAT (Catalyst use); PRP (Properties); USES (Uses)
(laser-stimulated oxidative coupling of ethanol)
RN 12158-74-6 HCAPLUS
CN Copper hydroxide phosphate (Cu₂(OH)(PO₄)) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Cu	2	7440-50-8

CC 23-7 (Aliphatic Compounds)
Section cross-reference(s): 67
IT 7446-27-7, Lead phosphate 12158-74-6, Copper
hydroxide phosphate (Cu₂(OH)(PO₄))
RL: CAT (Catalyst use); PRP (Properties); USES (Uses)
(laser-stimulated oxidative coupling of ethanol)

L87 ANSWER 13 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1995:644189 HCAPLUS Full-text
DOCUMENT NUMBER: 123:313172
ORIGINAL REFERENCE NO.: 123:56122h,56123a
TITLE: Mechanism of laser-stimulated surface reaction
of ethanol oxidative coupling
AUTHOR(S): Kang, Qinghua; Zhong, Shunhe
CORPORATE SOURCE: Dep. Chemical Engineering, Tianjing Univ.,
Tianjin, 300072, Peop. Rep. China
SOURCE: Wuli Huaxue Xuebao (1995), 11(6),
498-503
CODEN: WHXUEU; ISSN: 1000-6818
PUBLISHER: Beijing Daxue Chubanshe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

ED Entered STN: 29 Jun 1995

AB IR spectroscopy, XRD and pulse CO₂ laser techniques were employed to investigate the behaviors of laser stimulated surface reaction (LSSR) of ethanol oxidative coupling to give 1,4-butanediol (I) upon the surface of Cu₂(PO₄)(OH) which was prepared by the precipitation method. A reaction mechanism on this solid surface and a model of energy transfer and relaxation in such a process are proposed on the basis of the exptl. results. Under the conditions of atmospheric pressure and 200° with 1079 cm⁻¹ laser photon exciting the surface of Cu₂(PO₄)(OH) for 1000 times, the EtOH conversion was over 12% and the product was solely I. The vibrational excitation of the solid surface bonds was proved to be an effective mode for LSSR. The surface lattice oxygen of the solid material plays an important role in the Me dehydrogenation of EtOH oxidative coupling reaction, and the high selectivity of reaction product depends mainly on the special chemisorption state of EtOH, methyl-adsorbed type. With respect to the course of LSSR, it is likely that when the 1079 cm⁻¹ laser photon excites the surface P=O bond selectively and activates its surface oxygen, the energy transfers immediately to the Me C-H bond and activates it in the methyl-adsorbed ethanol mol. by v-v energy transfer and relaxation, then the adsorbed EtOH mol. dehydrogenates and couples to form I.

IT 12158-74-6, Copper hydroxide phosphate
(Cu₂(OH)(PO₄))
RL: CAT (Catalyst use); NUU (Other use, unclassified); USES (Uses)
(mechanism of laser-stimulated surface reaction of ethanol
oxidative coupling)
RN 12158-74-6 HCAPLUS
CN Copper hydroxide phosphate (Cu₂(OH)(PO₄)) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number

10/580,124-337515-EIC SEARCH

HO		1		14280-30-9
O4P		1		14265-44-2
Cu		2		7440-50-8

CC 22-4 (Physical Organic Chemistry)

IT 12158-74-6, Copper hydroxide phosphate
(Cu₂(OH)(PO₄))RL: CAT (Catalyst use); NUU (Other use, unclassified); USES (Uses)
(mechanism of laser-stimulated surface reaction of ethanol
oxidative coupling)

L87 ANSWER 14 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1995:483137 HCAPLUS Full-text

DOCUMENT NUMBER: 123:131195

ORIGINAL REFERENCE NO.: 123:22995a,22998a

TITLE: Effect of pH and anions on hydroxyapatite-Cu₂+
solid-liquid interactionsAUTHOR(S): Lusvardi, Gigliola; Menabue Ledi; Saladini,
Monica; Spaggiari, Marco

CORPORATE SOURCE: Dip. chim., Univ. Modena, Modena, 41100, Italy

SOURCE: Journal of Materials Chemistry (1995
, 5(3), 493-7

CODEN: JMACEP; ISSN: 0959-9428

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 Apr 1995

AB The reaction of synthetic Ca₅(PO₄)₃OH (HAP) with Cu₂+ ions was studied by pH, pCu and
pCa measurements as a function of the time, pH and electrolyte type (NaCl, NaHCO₃,
Na₂HPO₄). The solid phases after different reaction times were studied with XRD and IR
techniques. The Cu₂+ does not form mixed compds. with Ca₂+ and does not replace Ca₂+
in the HAP structure. The presence, in an appropriate concentration, of anions which
form very insol. Cu₂+ compds. favors the precipitation of the latter with no
involvement of HAP. If the concentration of the anions is low, the precipitation of
Cu₂+ also involves HAP and this behavior is particularly enhanced with Na₂HPO₄.IT 12158-74-6, Copper hydroxide phosphate
(Cu₂(OH)(PO₄))RL: FMU (Formation, unclassified); FORM (Formation,
nonpreparative)
(formation from calcium hydroxide phosphate
and cupric ion)

RN 12158-74-6 HCAPLUS

CN Copper hydroxide phosphate (Cu₂(OH)(PO₄)) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Cu	2	7440-50-8

CC 78-9 (Inorganic Chemicals and Reactions)

ST calcium hydroxide phosphate reaction cupric;
hydroxyapatite reaction cupricIT 7447-39-4, Cupric chloride, reactions 12167-74-7, Calcium
hydroxide phosphate (Ca₅(OH)(PO₄)₃)RL: RCT (Reactant); RACT (Reactant or reagent)
(Effect of pH and anions on hydroxyapatite-Cu₂+ solid-liquid
interactions)IT 1332-65-6, Copper chloride hydroxide (Cu₂Cl(OH)₃) 7798-23-4,
Copper phosphate (Cu₃(PO₄)₂) 12069-69-1 12158-74-6,
Copper hydroxide phosphate (Cu₂(OH)(PO₄))RL: FMU (Formation, unclassified); FORM (Formation,
nonpreparative)
(formation from calcium hydroxide phosphate
and cupric ion)

10/580,124-337515-EIC SEARCH

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE
THIS RECORD (2 CITINGS)

L87 ANSWER 15 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1993:685160 HCAPLUS Full-text
DOCUMENT NUMBER: 119:285160
ORIGINAL REFERENCE NO.: 119:50767a,50770a
TITLE: Effect of copper(2+) ion on the structural
stability of synthetic hydroxyapatite
AUTHOR(S): Bruckner, Sergio; Lusvardi, Gigliola; Menabue,
Ledi; Saladini, Monica
CORPORATE SOURCE: Dip. Chim., Univ. Modena, Modena, 41100, Italy
SOURCE: Journal of Materials Chemistry (1993
, 3(7), 715-19
CODEN: JMACEP; ISSN: 0959-9428
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 25 Dec 1993

AB The reaction of synthetic hydroxyapatite, $\text{Ca}_5(\text{PO}_4)_3\text{OH}$ (HAP), with Cu^{2+} ions is studied by pH, pCu and pCa measurements as a function of the time and temperature (30, 40, 45 and 60°) and at different $\text{Cu}^{2+}:\text{Ca}^{2+}$ molar ratios 0.01-1.07. The solid phases separated after different times of reaction were studied with XRD and IR techniques. The Cu^{2+} ions give rise to an acidic solution and promote HAP dissoln.; HAP does not incorporate the Cu^{2+} ions and a new phase corresponding to the mineral $\text{Cu}_2(\text{PO}_4)\text{OH}$ (Libethenite) crystallizes quant. In the reaction with the ratio $\text{Cu}^{2+}:\text{Ca}^{2+}$ 0.1-1, the pH decreases owing to the release of H_3PO_4 , whereas it increases for the ratio 0.01. At physiol. ionic strength, obtained with NaCl, the solid phase containing Cu is again libethenite, but the process is notably accelerated.

IT 12158-74-6P, Copper hydroxide
phosphate ($\text{Cu}_2(\text{OH})(\text{PO}_4)$)
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, from copper(II) and synthetic hydroxyapatite in
aqueous solution)

RN 12158-74-6 HCAPLUS
CN Copper hydroxide phosphate ($\text{Cu}_2(\text{OH})(\text{PO}_4)$) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Cu	2	7440-50-8

CC 78-9 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 14
ST copper 2 reaction hydroxyapatite; calcium hydroxide
phosphate reaction cupric ion
IT 12158-74-6P, Copper hydroxide
phosphate ($\text{Cu}_2(\text{OH})(\text{PO}_4)$)
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, from copper(II) and synthetic hydroxyapatite in
aqueous solution)
IT 12167-74-7, Calcium hydroxide phosphate
($\text{Ca}_5(\text{OH})(\text{PO}_4)_3$)
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with copper(II) in aqueous solution)

OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE
THIS RECORD (4 CITINGS)

L87 ANSWER 16 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1992:106916 HCAPLUS Full-text
DOCUMENT NUMBER: 116:106916
ORIGINAL REFERENCE NO.: 116:18131a,18134a
TITLE: Synthesis of
 α -methylstyrene-styrene-acrylonitrile
copolymer

10/580,124-337515-EIC SEARCH

AUTHOR(S): Guo, Xiuchun
 CORPORATE SOURCE: Chem. Eng. Plant, Shanghai Gaoqiao Petrochem.
 Co., Shanghai, 200137, Peop. Rep. China
 SOURCE: Gaofenzi Cailiao Kexue Yu Gongcheng (
 1991), 7(1), 122-6
 CODEN: GCKGEI; ISSN: 1000-7555
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 ED Entered STN: 20 Mar 1992

AB The title copolymer was prepared by suspension polymerization of α -methylstyrene (I) with styrene (II) and acrylonitrile (III) using $\text{Ca}_3(\text{PO}_4)_2 \cdot \text{Ca}(\text{OH})_2$ -II-maleic anhydride copolymer sodium salt as dispersing agents. The ~~particle size~~ and its distribution of the copolymer decreased with reducing the ~~particle size~~ of $\text{Ca}(\text{PO}_4)_2 \cdot \text{Ca}(\text{OH})_2$ and with increasing concentration of the dispersing agent system. The glass temperature of the copolymer increased while the impact strength decreased with increasing I content. The suitable content of II and III for the copolymer was 20-30 weight% and 20-35 weight%, resp.

IT 12049-64-8, Calcium hydroxide
 phosphate ($\text{Ca}_2(\text{OH})(\text{PO}_4)$)
 RL: USES (Uses)
 (dispersing agents, containing maleic anhydride-styrene copolymer sodium salt, for suspension polymerization of acrylonitrile with methylstyrene and styrene)

RN 12049-64-8 HCAPLUS

CN Calcium hydroxide phosphate ($\text{Ca}_2(\text{OH})(\text{PO}_4)$) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Ca	2	7440-70-2

CC 35-4 (Chemistry of Synthetic High Polymers)

ST methylstyrene styrene acrylonitrile copolymer; suspension polymn
 methylstyrene styrene acrylonitrile; dispersing agent suspension
 polymn methylstyrene; hydroxy calcium phosphate
 dispersing agent; maleic anhydride copolymer dispersing agent

IT Dispersing agents
 (calcium hydroxide phosphate-maleic
 anhydride-styrene copolymer sodium salt, for suspension polymerization
 of acrylonitrile with methylstyrene and styrene)

IT 12049-64-8, Calcium hydroxide
 phosphate ($\text{Ca}_2(\text{OH})(\text{PO}_4)$)
 RL: USES (Uses)
 (dispersing agents, containing maleic anhydride-styrene copolymer sodium salt, for suspension polymerization of acrylonitrile with methylstyrene and styrene)

IT 25736-61-2, Maleic anhydride-styrene copolymer sodium salt
 RL: USES (Uses)
 (dispersing agents, contg. calcium hydroxide
 phosphate, for suspension polymerization of acrylonitrile with
 methylstyrene and styrene)

IT 9010-96-2P, Acrylonitrile- α -methylstyrene-styrene copolymer
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, by suspension polymerization in presence of calcium
 hydroxide phosphate-maleic anhydride-styrene
 copolymer sodium salt dispersing agents)

L87 ANSWER 17 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1991:144815 HCAPLUS Full-text

DOCUMENT NUMBER: 114:144815

ORIGINAL REFERENCE NO.: 114:24579a,24582a

TITLE: Polymers which can be marked with laser light

INVENTOR(S): Schueler, Ralf; Herkt-Maetzky, Christian;
 Bartz, Wilfred

10/580,124-337515-EIC SEARCH

PATENT ASSIGNEE(S): Huels A.-G., Germany
 SOURCE: Ger. Offen., 4 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
DE 3917294	A1	19901129	DE 1989-3917294	1989 0527
US 5053440	A	19911001	US 1990-504840	1990 0405
EP 400305	A2	19901205	EP 1990-106763	1990 0409
EP 400305	A3	19910911		
EP 400305	B1	19960710		
EP 400305	B2	20010321		
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
AT 140189	T	19960715	AT 1990-106763	1990 0409
ES 2088917	T3	19961001	ES 1990-106763	1990 0409
CA 2017545	A1	19901127	CA 1990-2017545	1990 0525
CA 2017545	C	20010918		
BR 9002465	A	19910813	BR 1990-2465	1990 0525
KR 162082	B1	19990115	KR 1990-7588	1990 0525
JP 03024161	A	19910201	JP 1990-135536	1990 0528
JP 2947878	B2	19990913		
PRIORITY APPLN. INFO.:			DE 1989-3917294	A 1989 0527

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 19 Apr 1991

AB The title polymers, which can be marked until a predetd. min. value of contrast is achieved, contain 0.2-5% additive having little or no color at 400-750 nm but giving markings with high contrast when exposed to laser light outside of the visible spectrum. Poly(butylene terephthalate) containing 1 phr Cu₂(PO₄)₂.Cu(OH)₂ was exposed to 100 J/cm² pulsed laser light (1064 nm, 20 W, pulse frequency 8 kHz) to give markings with contrast 7.6.

IT 12158-74-S, Copper hydroxide phosphate
 (Cu₂(OH)(PO₄))

10/580,124-337515-EIC SEARCH

RL: USES (Uses)

(plastics containing, for laser marking with high contrast)

RN 12158-74-6 HCAPLUS

CN Copper hydroxide phosphate (Cu₂(OH)(PO₄)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Cu	2	7440-50-8

IPCI C08K0011-00 [ICM,5]; C08K0003-32 [ICS,5]; C08K0003-22 [ICS,5];
 B44C0001-02 [ICS,5]; B44C0001-00 [ICS,5,C*]; C08K0003-00 [ICI,5];
 C08L0067-02 [ICI,5]; C08L0067-00 [ICI,5,C*]; C08L0023-06 [ICI,5];
 C08L0023-12 [ICI,5]; C08L0023-00 [ICI,5,C*]; C08L0025-06 [ICI,5];
 C08L0025-00 [ICI,5,C*]; C08L0077-00 [ICI,5]; C08J0007-00 [ICA,5];
 B29C0071-04 [ICA,5]; B29C0071-00 [ICA,5,C*]
 IPCR C08K0003-00 [I,A]; B41M0005-24 [I,C*]; B41M0005-24 [I,A];
 B41M0005-26 [I,C*]; B41M0005-26 [I,A]; C08K0003-00 [I,C*];
 C08K0003-22 [I,A]; C08K0003-32 [I,A]; C08L0101-00 [I,C*];
 C08L0101-00 [I,A]
 CC 37-6 (Plastics Manufacture and Processing)
 IT 1309-37-1, Iron oxide (Fe₂O₃), uses and miscellaneous 1313-27-5,
 Molybdenum trioxide, uses and miscellaneous 8007-18-9, Titanate
 yellow 12158-74-6, Copper hydroxide
 phosphate (Cu₂(OH)(PO₄)) 13463-67-7, Titanium oxide
 (TiO₂), uses and miscellaneous
 RL: USES (Uses)

(plastics containing, for laser marking with high contrast)

OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE
 THIS RECORD (11 CITINGS)
 REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L87 ANSWER 18 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1990:54309 HCAPLUS Full-text

DOCUMENT NUMBER: 112:54309

ORIGINAL REFERENCE NO.: 112:9329a,9332a

TITLE: Agrochemical basis for the inclusion of
 mineral fertilizers with trace elements in a
 range of microfertilizers. Part 2.
 Interaction of copper and phosphorus in
 fertilizers

AUTHOR(S): Potatueva, Yu. A.; Yanchuk, I. A.; Solntseva,
 I. I.

CORPORATE SOURCE: NIUIF, Moscow, USSR

SOURCE: Agrokhimiya (1983), (10), 86-95

CODEN: AGKYAU; ISSN: 0002-1881

DOCUMENT TYPE: Journal

LANGUAGE: Russian

ED Entered STN: 17 Feb 1990

AB Adding 2.5 mg Ca(H₂PO₄)₂/30 g peat, sod-podzolic, and Sierozem soils decreased
 percolation of 3 mg CuSO₄-Cu/1.6 kg soil, as determined after a 3-day inoculation, to
 43, 70, and 59%, resp., of CuSO₄-treated controls not treated with the phosphate.
 Adding CuSO₄ to ammophos before H₃PO₄ neutralization with NH₃ or during granulation led
 to (NH₄)H₂PO₄ reaction with Cu forming crystalline Cu₃(PO₄)₂·3H₂O of a low water
 solubility CuSO₄ reacted with a fertilizer comprising CaHPO₄·2H₂O + CaHPO₄ + Fe, Mg,
 K, and Al phosphates + gypsum + SiO₂ forming insol. Cu₂(OH)PO₄. Cu contained in the
 water-insol. fraction of ammophos failed to increase the yield of potted barley grain
 above that obtained from the insol. ammophos fraction without Cu, whereas sep.
 applications of the insol. ammophos fraction and CuSO₄ doubled the yield. However,
 adding 0.34% CuSO₄ to liquid N-P fertilizers containing NH₄ polyphosphates did not
 decrease Cu effectiveness. Cu applied on the surface of ammophos granules as a
 Cu(NH₄)₂ OEDF complex, retained its effectiveness in barley, whereas the same complex
 applied to superphosphate during granulation was ineffective. Amending KCl with Cu

10/580,124-337515-EIC SEARCH

increased barley grain yield to 5.0 g/pot from 2.7 g/pot in controls treated with KCl without Cu. Mixing superphosphate with KCl without or with Cu gave yields of 2.3 and 5.7 g/pot, resp. Superphosphate increased utilization of Cu added to KCl from 5.0 to 7.4%. Cu of CuSO₄ added to NH₄NO₃ or KCl was ≥24% soluble, whereas in urea or double superphosphate Cu was 16-20% soluble, and in nitroammophoska Cu was 16-17% soluble

IT 12158-74-6, Copper hydroxide phosphate
(Cu₂(OH)(PO₄))

RL: BIOL (Biological study)

(formation and precipitation of, in copper sulfate-calcium monohydrogen phosphate reaction, copper availability decrease by)

RN 12158-74-6 HCAPLUS

CN Copper hydroxide phosphate (Cu₂(OH)(PO₄)) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Cu	2	7440-50-8

CC 19-6 (Fertilizers, Soils, and Plant Nutrition)

IT 12158-74-6, Copper hydroxide phosphate
(Cu₂(OH)(PO₄))

RL: BIOL (Biological study)

(formation and precipitation of, in copper sulfate-calcium monohydrogen phosphate reaction, copper availability decrease by)

L87 ANSWER 19 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1986:213030 HCAPLUS Full-text

DOCUMENT NUMBER: 104:213030

ORIGINAL REFERENCE NO.: 104:33669a,33672a

TITLE: Dentifrice for hypersensitive teeth

INVENTOR(S): Scheller, Hans Ulrich

PATENT ASSIGNEE(S): Wuertembergische Parfuemerie-Fabrik G.m.b.H.,
Fed. Rep. Ger.

SOURCE: Eur. Pat. Appl., 10 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 165454	A2	19851227	EP 1985-105826	1985 0511
			<--	
EP 165454	A3	19861230		
EP 165454	B1	19910123		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
US 4634589	A	19870106	US 1985-731286	1985 0507
			<--	
AT 60222	T	19910215	AT 1985-105826	1985 0511
			<--	
JP 60255716	A	19851217	JP 1985-104903	1985 0515
			<--	
JP 63050324	B	19881007		
CA 1254150	A1	19890516	CA 1985-481719	

10/580,124-337515-EIC SEARCH

1985
0516

AU 8652252 A 19870716 AU 1986-52252

1986
0114

AU 585929 B2 19890629
US 4710372 A 19871201 US 1986-911426

1986
0925

PRIORITY APPLN. INFO.: DE 1984-3418427 A

1984
0518

US 1985-731286 A1

1985
0507

EP 1985-105826 A

1985
0511

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 14 Jun 1986

AB A toothpaste for hypersensitive teeth contains apatite with a mean particle size <100 μm and an abrasion value (RDA) <30, such as hydroxyapatite and/or fluorapatite, as well as a local anesthetic, but no water-soluble mineral salts. Of the apatite, 15% must have a particle size $\leq 8 \mu\text{m}$. Thus, a toothpaste contained Aerosil 200 2.40, CM-cellulose 1.00, Na lauryl sulfate 2.75, glycerol 20.80, Hostapon KTW 0.90, Me p-hydroxybenzoate Na salt 0.20, Na saccharin 0.25, tri-Ca hydroxyapatite 17.00, water 50.699, S-erythrosin 76E127 0.001, flavor 1.50, and propylene glycol 2.50%.

IT 53572-65-9

RL: BIOL (Biological study)
(toothpaste containing local anesthetic and)

RN 53572-65-9 HCAPLUS

CN Calcium hydroxide phosphate (Ca₃(OH)3(PO₄)) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
HO	3	14280-30-9
O4P	1	14265-44-2
Ca	3	7440-70-2

IPCI A61K0007-16 [ICM,4]

IPCR A61K0008-00 [I,C*]; A61K0008-00 [I,A]; A61K0008-19 [I,C*];
A61K0008-24 [I,A]; A61Q0011-00 [I,C*]; A61Q0011-00 [I,A]

CC 62-7 (Essential Oils and Cosmetics)

IT 1306-05-4 1306-06-5 53572-65-9

RL: BIOL (Biological study)
(toothpaste containing local anesthetic and)

OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE
THIS RECORD (15 CITINGS)

L87 ANSWER 20 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1985:439322 HCAPLUS Full-text

DOCUMENT NUMBER: 103:39322

ORIGINAL REFERENCE NO.: 103:6369a,6372a

TITLE: Basic copper phosphate with a bright inherent
color and a medium grain
size < 10 μ

INVENTOR(S): Schueler, Ralf; Maahs, Guenther

PATENT ASSIGNEE(S): Chemische Werke Huels A.-G. , Fed. Rep. Ger.

10/580,124-337515-EIC SEARCH

SOURCE: Ger. Offen., 8 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3342292	A1	19850530	DE 1983-3342292	1983 1123
EP 143933	A1	19850612	EP 1984-111457	1984 0926
EP 143933	B1	19870121		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL				
AT 25067	T	19870215	AT 1984-111457	1984 0926
US 4567220	A	19860128	US 1984-664838	1984 1025
JP 60131815	A	19850713	JP 1984-243569	1984 1120
BR 8405945	A	19850917	BR 1984-5945	1984 1122
PRIORITY APPLN. INFO.:			DE 1983-3342292	A 1983 1123
			EP 1984-111457	A 1984 0926

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 10 Aug 1985

AB Bright-colored basic Cu phosphate (I) of the composition $\text{Cu}_3(\text{PO}_4)_2 \cdot \text{Cu}(\text{OH})_2$ with an average grain size $<10\mu$ was obtained by treating an aqueous suspension of $\text{CuCO}_3 \cdot \text{Cu}(\text{OH})_2$ or $2 \text{CuCO}_3 \cdot \text{Cu}(\text{OH})_2$ (bulk d. $>800 \text{ g/L}$) with H_3PO_4 at $<70^\circ$, heating the reaction mixture to $90-100^\circ$ for the removal of residual CO_2 , separation of I from the aqueous phase, and drying at $\leq 1 \text{ atm}$ and $100-120^\circ$. The I is used as a smoke suppressant in thermoplastics, especially in poly(vinyl chloride). Thus, 84 g of I containing Cu 52.9, P 12.9, and H 0.36% consisting of .apprx. 3μ long and .apprx. 0.3μ thick crystals was obtained by treating on aqueous suspension containing 83 g $\text{CuCO}_3 \cdot \text{Cu}(\text{OH})_2$ (bulk d. .apprx. 500 g/L) in 500 mL H_2O under stirring at 55° for 40 min, followed by 30 min boiling, filtering, and drying at $<1 \text{ atm}$ and 100° . The pH of the reaction mixture decreased during stirring from 8 to 4 and the color of the reaction product turned from light blue to light green and finely to almost white.

IT 12158-74-6P

RL: PREP (Preparation)

(preparation of, from basic copper carbonate and phosphoric acid)

RN 12158-74-6 HCAPLUS

CN Copper hydroxide phosphate ($\text{Cu}_2(\text{OH})(\text{PO}_4)$) (CA INDEX NAME)

Component	Ratio	Component	Registry Number

10/580,124-337515-EIC SEARCH

HO		1		14280-30-9
O4P		1		14265-44-2
Cu		2		7440-50-8

IPCI C01B0025-37 [ICM,3]; C01B0025-00 [ICM,3,C*]; C01G0003-00 [ICS,3];
 C08K0003-32 [ICS,3]; C08K0003-00 [ICS,3,C*]; C08L0027-06 [ICS,3];
 C08L0027-00 [ICS,3,C*]
 IPCR C08K0003-00 [I,A]; C01B0025-00 [I,C*]; C01B0025-37 [I,A];
 C08K0003-00 [I,C*]; C08K0003-28 [I,A]; C08K0003-32 [I,A];
 C08L0001-00 [I,C*]; C08L0001-00 [I,A]; C08L0027-00 [I,C*];
 C08L0027-00 [I,A]
 CC 49-5 (Industrial Inorganic Chemicals)
 Section cross-reference(s): 38
 ST copper phosphate smoke suppressant ~~thermoplastic~~;
 polyvinyl chloride smoke suppressant
 IT ~~12158-74-6P~~
 RL: PREP (Preparation)
 (preparation of, from basic copper carbonate and phosphoric acid)
 OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE
 THIS RECORD (3 CITINGS)

L87 ANSWER 21 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1979:125489 HCAPLUS Full-text

DOCUMENT NUMBER: 90:125489

ORIGINAL REFERENCE NO.: 90:19829a,19832a

TITLE: Study of the mechanism of the anticorrosion
 ability of low-alloy steel resistant to
 atmospheric corrosion

AUTHOR(S): Markovic, Savo

CORPORATE SOURCE: Metal. Fak., Zenica, Yugoslavia

SOURCE: Tehnika (Belgrade, Yugoslavia) (1978
), 33(10), RGM19-RGM24

CODEN: TEHBA5; ISSN: 0040-2176

DOCUMENT TYPE: Journal

LANGUAGE: Serbo-Croatian

ED Entered STN: 12 May 1984

AB The mechanism of formation of corrosion layer and its composition were studied. X-ray
 anal. of rust indicated that steel with the lowest rate of corrosion had an increased
 formation rate of α -FeOOH. Electron microscopy of rust revealed for the 1st time new
 phases, such as: $\text{Cu}_5(\text{PO}_4)_2(\text{OH})_4$ [~~62683-60-7~~], $\text{CuSO}_4 \cdot 3\text{H}_2\text{O}$ and $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$, γ -Fe $_2\text{O}_3$,
 $2\text{FeCl}_3 \cdot 5\text{H}_2\text{O}$, and $\text{Cu}_3(\text{PO}_4)_2 \cdot 3\text{H}_2\text{O}$. After a period of 18 mo of corrosion in clean
 atmospheric the rust powder also contained FeO and $\text{Cu}_5(\text{PO}_4)_2(\text{OH})_4$. During the 1st 24 h
 of corrosion γ -FeOOH and γ -Fe $_2\text{O}_3$ were detected and later after another 24 h α -FeOOH,
 Fe $_3\text{O}_4$, and $\text{CuSO}_4 \cdot 3\text{H}_2\text{O}$ were detected.

IT ~~62683-60-7P~~

RL: FORM (Formation, nonpreparative); PREP (Preparation)
 (formation of, in rust formed on atmospheric corrosion-resistant
 steel)

RN 62683-60-7 HCAPLUS

CN Copper hydroxide phosphate ($\text{Cu}_5(\text{OH})_4(\text{PO}_4)_2$) (CA INDEX NAME)

Component		Ratio		Component
				Registry Number
HO		4		14280-30-9
O4P		2		14265-44-2
Cu		5		7440-50-8

CC 55-9 (Ferrous Metals and Alloys)

IT 7758-99-8P 16448-28-5P ~~62683-60-7P~~

RL: FORM (Formation, nonpreparative); PREP (Preparation)
 (formation of, in rust formed on atmospheric corrosion-resistant
 steel)

L87 ANSWER 22 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

10/580,124-337515-EIC SEARCH

ACCESSION NUMBER: 1967:97000 HCAPLUS Full-text
 DOCUMENT NUMBER: 66:97000
 ORIGINAL REFERENCE NO.: 66:18219a,18222a
 TITLE: Potassium-enriched conditioning agent for salt
 INVENTOR(S): Norsen, Henry N.
 SOURCE: U.S., 2 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3306753		19670228	US 1964-350697	1964 0310

<--

ED Entered STN: 12 May 1984
 AB The title composition comprising a mixture of KCl, KH₂PO₄, and tri-Ca phosphate, in which the mole ratio of KCl/KH₂PO₄ is 1:5-7 and the Ca/K ratio is 1.05-1.27, is prepared by blending the mixture with water to form a paste, drying the paste to form a solid residue, and grinding the residue to substantially the particle size of the original tri-Ca phosphate. The amount of conditioning agent added to the salt is 0.40-1.00% by weight
 IT 12049-64-8, Calcium hydroxide phosphate (Ca₂(OH)(PO₄))
 RL: USES (Uses)
 (sodium chloride conditioning agent from monopotassium phosphate, potassium chloride and)
 RN 12049-64-8 HCAPLUS
 CN Calcium hydroxide phosphate (Ca₂(OH)(PO₄)) (CA INDEX NAME)

Component	Ratio	Component	Registry Number
HO	1		14280-30-9
O4P	1		14265-44-2
Ca	2		7440-70-2

INCL 099143000
 IPCR A23L0001-237 [I,C*]; A23L0001-237 [I,A]
 NCL 426/649.000; 252/381.000; 423/267.000; 426/806.000
 CC 49 (Industrial Inorganic Chemicals)
 IT 7647-14-5, uses and miscellaneous
 RL: USES (Uses)
 (potassium-enriched conditioning agent for, from calcium hydroxide phosphate (Ca₂(OH)(PO₄)), monopotassium phosphate and potassium chloride)
 IT 7447-40-7, uses and miscellaneous
 RL: USES (Uses)
 (sodium chloride conditioning agent from calcium hydroxide phosphate (Ca₂(OH)(PO₄)), monopotassium phosphate and)
 IT 7778-77-0
 RL: USES (Uses)
 (sodium chloride conditioning agent from calcium hydroxide phosphate (Ca₂(OH)(PO₄)), potassium chloride and)
 IT 12049-64-8, Calcium hydroxide phosphate (Ca₂(OH)(PO₄))
 RL: USES (Uses)
 (sodium chloride conditioning agent from monopotassium phosphate, potassium chloride and)

L87 ANSWER 23 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

10/580,124-337515-EIC SEARCH

ACCESSION NUMBER: 1961:40356 HCAPLUS
 DOCUMENT NUMBER: 55:40356
 ORIGINAL REFERENCE NO.: 55:7844b-f
 TITLE: Extrudable solid propellant compositions
 INVENTOR(S): Bice, Charles C.
 PATENT ASSIGNEE(S): Phillips Petroleum Co.
 DOCUMENT TYPE: ~~Patent~~
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2965465		19601220	US 1958-783646	1958
				1219

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ED Entered STN: 22 Apr 2001

AB Complex phosphate compds. are used to improve the extrudability of solid propellant compns. Solid oxidizer-containing propellant compns. can be extruded in conventional equipment by incorporating an extrusion aid comprising certain orthophosphates, having the formula $x[M_3(PO_4)_2] \cdot M(OH)_2$, in which M is Ca, Zn, or Sr and both M atoms are alike; and x is 0.5-3.0. The compds. include: $0.5[Ca_3(PO_4)_2] \cdot Ca(OH)_2$, $Ca_3(PO_4)_2 \cdot Ca(OH)_2$, $1.3[Ca_3(PO_4)_2] \cdot Ca(OH)_2$, $2[Ca_3(PO_4)_2] \cdot Ca(OH)_2$, $1.7[Ca_3(PO_4)_2] \cdot Ca(OH)_2$, $3[Ca_3(PO_4)_2] \cdot Ca(OH)_2$, $Zn_3(PO_4)_2 \cdot Zn(OH)_2$, $2.2[Zn_3(PO_4)_2] \cdot Zn(OH)_2$, $3[Zn_3(PO_4)_2] \cdot Zn(OH)_2$, $Sr_3(PO_4)_2 \cdot Sr(OH)_2$, $2[Sr_3(PO_4)_2] \cdot Sr(OH)_2$, and $3[Sr_3(PO_4)_2] \cdot Sr(OH)_2$. The extrudable solid propellant compns. have a high ratio of solid inorg. oxidizer to binder. The rubbery materials for use as binder and fuel component include natural and synthetic rubbers, while up to 100 parts by weight of C black per 100 parts by weight by rubber are used as a reinforcing filler and fuel. The complex phosphate compds. and plasticizer are usually blended with the oxidizer and the mixture incorporated into the binder. Curing takes place at 150-250°F. for 7-24 h. Thus, a rubbery polymer was prepared by emulsion polymerization at 41°F. of 90 parts 1,3-butadiene and 10 parts 2-methyl-5-vinylpyridine. The rubbery polymer used to prepare the binder consists of: 90-100 parts copolymer, 22 parts furnace C black, and 3 parts by weight antioxidant. The oxidizer used was phase-stabilized NH_4NO_3 . The mixture was heated for 24 h. at 150° and ground to a particle size of 60 μ , and the stabilized oxidizer was mixed with the burning-rate catalyst $((NH_4)_2Cr_2O_7$ of 18 μ). This mixture was used for the preparation of the propellant composition by adding the remaining ingredients, then extruding through a 0.5-in.-diameter die with a pressure of 9600 lb./sq. in. and measuring the rate of extrusion. The complex phosphate compds. caused the compns. to extrude rapidly and the grains were smooth and free of defects.

IT 12049-64-8

(Derived from data in the 6th Collective Formula Index
 (1957-1961))

RN 12049-64-8 HCAPLUS

CN Calcium hydroxide phosphate ($Ca_2(OH)(PO_4)$) (CA INDEX NAME)

Component	Ratio	Component	Registry Number
HO	1		14280-30-9
O4P	1		14265-44-2
Ca	2		7440-70-2

IPCR C06B0023-00 [I,C*]; C06B0023-00 [I,A]

NCL 149/007.000; 149/060.000; 149/076.000

CC 24 (Propellants, Explosives, and Explosions)

IT 628-96-6 12049-64-8 12167-74-7 123355-08-8

123355-09-9 124343-18-6

(Derived from data in the 6th Collective Formula Index
 (1957-1961))

L87 ANSWER 24 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1957:98048 HCAPLUS Full-text

10/580,124-337515-EIC SEARCH

DOCUMENT NUMBER: 51:98048
 ORIGINAL REFERENCE NO.: 51:17625e-i
 TITLE: Mineralogy of the arsenates, phosphates, and
 vanadates of copper. I. Arsenates of copper
 AUTHOR(S): Guillemin, C.
 CORPORATE SOURCE: Sorbonne, Paris
 SOURCE: Bulletin de la Societe Francaise de
 Mineralogie et de Cristallographie (
 1956), 79, 7-95
 CODEN: BUFC AE; ISSN: 0037-9328
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 ED Entered STN: 22 Apr 2001

AB Arsenates of copper are relatively common in nature. They should be found in all deposits containing the gray Cu minerals. By their presence in a gossan they are indicators of the Cu minerals at depth. The dispersion of the Cu arsenates in relation to the primary minerals is a function of their pyrite content. The Cu arsenates have been studied by means of qual., macro-, and ~~microquant.~~ anal., by hydrostatic d. determination with a ~~microbalance~~, by study of optical properties, by dehydration, by x-ray methods, and by synthesis. One new species is described, as duftite has been separated into 2 species, structurally different: duftite- α , orthorhombic and holohedral, and duftite- β , orthorhombic and sphenoidal. Duftite- β forms a complete isomorphic series with conichalcite and a partial isomorphous series with mottramite. The minerals containing more than 32.5% PbO are assigned to duftite- β ; those containing more than 8.2% CaO are assigned to conichalcite. In both duftite- α and duftite- β the V2O5 content was less than 0.05%. Duftite- β , (Pb, Ca)Cu(AsO4)(OH), has a d. of 5.86 ± 0.03 , hardness 4.5, conchoidal fracture, greasy luster, and no cleavage. Its color varies from dark olive-green to yellowish green; it is green in transmitted light; and nonpleochroic. Its average n is 1.97 ± 0.01 . Duftite- β occurs in crystals 0.1 mm. in length and 0.01 mm. in thickness. Its parameters are: a = 7.49 A.; b = 9.36 A.; c = 5.91 A. Anal. gives Pb/Ca = 3.2. Duftite- β is not transformed into duftite- α by the action of water at pH 3 during 5 days at 200°. Discredited are: trichalcite = tyrolite or langite; freirinite = lavendulan; cuproplumbite = bayldonite. Parabayldonite is a phase between duftite- β and conichalcite. Redefined are lindackerite, lavendulan, and tyrolite. Certain Cu arsenates in the presence of water are transformed into more stable species. Euchroite, lindackerite, lavendulan, chalcophyllite, and liroconite give olivenite; tyrolite, according to pH is transformed into olivenite (pH = 3) or in alkaline conditions into conichalcite. Studied by synthesis are euchroite, erinite, lavendulan, conichalcite, bayldonite, and duftite.

IT 125761-45-7

(Derived from data in the 6th Collective Formula Index
(1957-1961))

RN 125761-45-7 HCAPLUS

CN Copper hydroxide phosphate (Cu3(OH)3(PO4)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	3	14280-30-9
O4P	1	14265-44-2
Cu	3	7440-50-8

CC 8 (Mineralogical and Geological Chemistry)

IT 125761-45-7

(Derived from data in the 6th Collective Formula Index
(1957-1961))

OS.CITING REF COUNT: 15 THERE ARE 15 CAPLUS RECORDS THAT CITE
THIS RECORD (15 CITINGS)

L87 ANSWER 25 OF 25 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1957:98046 HCAPLUS Full-text

DOCUMENT NUMBER: 51:98046

ORIGINAL REFERENCE NO.: 51:17625c-d

TITLE: Identification of native copper phosphates by
x-rays

10/580,124-337515-EIC SEARCH

AUTHOR(S): Smid, Bohumil
 CORPORATE SOURCE: Charles Univ., Prague
 SOURCE: Rozpravy Ceskoslov. akad. ved., Rada mat. a
 prirod. ved. (1957), 67(No. 5),
 67-73
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable

ED Entered STN: 22 Apr 2001

AB Debye-Scherrer diagrams show that the minerals hitherto named phosphorochalcite, lunnite, ehlite, pseudo-malachite, tagilite, and dihydrite are identical. Libethenite is not identical but a well-defined mineral.

IT 12158-74-6 62683-60-7
 (Derived from data in the 6th Collective Formula Index
 (1957-1961))

RN 12158-74-6 HCAPLUS

CN Copper hydroxide phosphate (Cu₂(OH)(PO₄)) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	1	14280-30-9
O4P	1	14265-44-2
Cu	2	7440-50-8

RN 62683-60-7 HCAPLUS

CN Copper hydroxide phosphate (Cu₅(OH)₄(PO₄)₂) (CA INDEX NAME)

Component	Ratio	Component Registry Number
HO	4	14280-30-9
O4P	2	14265-44-2
Cu	5	7440-50-8

CC 8 (Mineralogical and Geological Chemistry)

IT 12158-74-6 62683-60-7
 (Derived from data in the 6th Collective Formula Index
 (1957-1961))

=>

10/580,124-337515-EIC SEARCH

FULL SEARCH HISTORY

=> d his nofile

(FILE 'HOME' ENTERED AT 13:46:30 ON 22 JUL 2010)

FILE 'HCAPLUS' ENTERED AT 13:46:39 ON 22 JUL 2010

E US20070155881/PN

L1 1 SEA SPE=ON ABB=ON PLU=ON US20070155881/PN
D SCA
SEL RN

FILE 'REGISTRY' ENTERED AT 13:47:03 ON 22 JUL 2010

L2 16 SEA SPE=ON ABB=ON PLU=ON (12158-74-6/BI OR 125761-45
-7/BI OR 25038-59-9/BI OR 62683-60-7/BI OR 79-10-7/BI
OR 852929-90-9/BI OR 852929-92-1/BI OR 852929-94-3/BI
OR 852929-96-5/BI OR 852929-98-7/BI OR 852930-00-8/BI
OR 852930-02-0/BI OR 852930-04-2/BI OR 852930-06-4/BI
OR 9003-53-6/BI OR 9003-56-9/BI)
D SCA

FILE 'STNGUIDE' ENTERED AT 13:47:19 ON 22 JUL 2010

FILE 'REGISTRY' ENTERED AT 13:49:32 ON 22 JUL 2010

L3 12 SEA SPE=ON ABB=ON PLU=ON L2 AND M/ELS
L4 4 SEA SPE=ON ABB=ON PLU=ON L2 NOT L3
D SCA
D SCA L3

FILE 'HCAPLUS' ENTERED AT 13:50:22 ON 22 JUL 2010

D L1 ALL

FILE 'STNGUIDE' ENTERED AT 13:51:36 ON 22 JUL 2010

FILE 'REGISTRY' ENTERED AT 14:07:40 ON 22 JUL 2010

L5 1444541 SEA SPE=ON ABB=ON PLU=ON (P(L)O(L)H)/ELS
E CA/ELS
L6 112923 SEA SPE=ON ABB=ON PLU=ON CA/ELS
L7 5428 SEA SPE=ON ABB=ON PLU=ON L5(L)L6
E 4/ELC.SUB
L8 QUE SPE=ON ABB=ON PLU=ON 4/ELC.SUB
L9 318 SEA SPE=ON ABB=ON PLU=ON L7 AND L8
L10 15 SEA SPE=ON ABB=ON PLU=ON L9 AND CA3
L11 286 SEA SPE=ON ABB=ON PLU=ON L9 AND CA
L12 15 SEA SPE=ON ABB=ON PLU=ON L10 AND L11
D SCA

FILE 'STNGUIDE' ENTERED AT 14:13:01 ON 22 JUL 2010

FILE 'REGISTRY' ENTERED AT 14:18:03 ON 22 JUL 2010

L13 2 SEA SPE=ON ABB=ON PLU=ON L12 AND "CA . H O . O4
P"/MF
D SCA
L14 3888 SEA SPE=ON ABB=ON PLU=ON (?HYDROXIDE?(L)?PHOSPHATE?)
/CNS
L15 4 SEA SPE=ON ABB=ON PLU=ON L12 AND L14
D SCA
E CU/ELS
L16 580252 SEA SPE=ON ABB=ON PLU=ON CU/ELS
L17 148 SEA SPE=ON ABB=ON PLU=ON L16(L)L7
L18 1 SEA SPE=ON ABB=ON PLU=ON L2 AND L17
D SCA
L19 QUE SPE=ON ABB=ON PLU=ON 5/ELC.SUB
L20 43 SEA SPE=ON ABB=ON PLU=ON L17 AND L19
L21 4 SEA SPE=ON ABB=ON PLU=ON L15(L)L5
D QUE

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L22	14391	SEA SPE=ON	ABB=ON	PLU=ON	L16 (L) L5
L23	12	SEA SPE=ON	ABB=ON	PLU=ON	L2 AND L22
L24	3	SEA SPE=ON	ABB=ON	PLU=ON	L23 AND L8
L25	134	SEA SPE=ON	ABB=ON	PLU=ON	L22 (L) L8
L26	3	SEA SPE=ON	ABB=ON	PLU=ON	L2 AND L25
		D SCA			
		E FE/ELS			
L27	946628	SEA SPE=ON	ABB=ON	PLU=ON	FE/ELS
		D QUE L22			
L28	446	SEA SPE=ON	ABB=ON	PLU=ON	L22 (L) L27
L29	16	SEA SPE=ON	ABB=ON	PLU=ON	L28 (L) L19
L30	2	SEA SPE=ON	ABB=ON	PLU=ON	L2 AND L29
		D SCA			
		E AL/ELS			
L31	426955	SEA SPE=ON	ABB=ON	PLU=ON	AL/ELS
		D QUE L30			
L32	93759	SEA SPE=ON	ABB=ON	PLU=ON	L16 (L) L31
L33	15487	SEA SPE=ON	ABB=ON	PLU=ON	L32 (L) L19
L34	2	SEA SPE=ON	ABB=ON	PLU=ON	L33 AND L2
		D SCA			
		D QUE L33			
L35	9	SEA SPE=ON	ABB=ON	PLU=ON	L33 AND L14
		D SCA			
L36	2	SEA SPE=ON	ABB=ON	PLU=ON	L2 AND L35
		D SCA			
		E ZN/ELS			
L37	245550	SEA SPE=ON	ABB=ON	PLU=ON	ZN/ELS
L38	23200	SEA SPE=ON	ABB=ON	PLU=ON	L37 (L) L32
L39	1	SEA SPE=ON	ABB=ON	PLU=ON	L2 AND L38
		D SCA			
		D QUE L22			
L40	254	SEA SPE=ON	ABB=ON	PLU=ON	L22 (L) L37
L41	34	SEA SPE=ON	ABB=ON	PLU=ON	L40 (L) L19
L42	2	SEA SPE=ON	ABB=ON	PLU=ON	L2 AND L41
		D SCA			
		E MG/ELS			
L43	176857	SEA SPE=ON	ABB=ON	PLU=ON	MG/ELS
L44	55	SEA SPE=ON	ABB=ON	PLU=ON	L22 (L) L43
L45	29	SEA SPE=ON	ABB=ON	PLU=ON	L44 AND L19
L46	1	SEA SPE=ON	ABB=ON	PLU=ON	L45 AND L2
L47	16	SEA SPE=ON	ABB=ON	PLU=ON	L13 OR L15 OR L26 OR L18
					OR L30 OR L34 OR L36 OR L39 OR L42 OR L46
L48	16	SEA SPE=ON	ABB=ON	PLU=ON	L47 AND L14
FILE 'HCAPLUS' ENTERED AT 14:58:00 ON 22 JUL 2010					
L49	108	SEA SPE=ON	ABB=ON	PLU=ON	L48
		D SCA L1			
L50	1	SEA SPE=ON	ABB=ON	PLU=ON	L1 AND L49
		D SCA			
		D ABS			
L51		QUE SPE=ON	ABB=ON	PLU=ON	MICRON OR MICROMET? OR
					MM OR MU (W) (M OR METER OR METRE)
L52	4	SEA SPE=ON	ABB=ON	PLU=ON	L49 AND L51
		D KWIC			
		D KWIC 2			
		D KWIC 3			
		D KWIC 4			
		E PARTICLE SIZE/CT 25			
		E E3+ALL			
L53		QUE SPE=ON	ABB=ON	PLU=ON	"PARTICLE SIZE"+ALL/CT
L54	1	SEA SPE=ON	ABB=ON	PLU=ON	L49 AND L53
		D KWIC			
L55		QUE SPE=ON	ABB=ON	PLU=ON	MICRO? AND L49
L56	10	SEA SPE=ON	ABB=ON	PLU=ON	MICRO? AND L49
		D KWIC			
		D KWIC 5			

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L57      105267 SEA SPE=ON  ABB=ON  PLU=ON  LTOREQ(3A)2
L58      1 SEA SPE=ON  ABB=ON  PLU=ON  L57 AND L49
        D KWIC
L59      0 SEA SPE=ON  ABB=ON  PLU=ON  L58 AND L51
L60      0 SEA SPE=ON  ABB=ON  PLU=ON  L58 AND L56
L61      14 SEA SPE=ON  ABB=ON  PLU=ON  L52 OR L54 OR L56 OR L58
L62      QUE SPE=ON  ABB=ON  PLU=ON  THERMOPLAST? OR THERM?(A)PL
        ASTIC?
L63      5 SEA SPE=ON  ABB=ON  PLU=ON  L49 AND L62
L64      QUE SPE=ON  ABB=ON  PLU=ON  0.001(3W)2
L65      0 SEA SPE=ON  ABB=ON  PLU=ON  L49 AND L64
L66      QUE SPE=ON  ABB=ON  PLU=ON  SCHERRER?
L67      1 SEA SPE=ON  ABB=ON  PLU=ON  L49 AND L66
        D KWIC
L68      QUE SPE=ON  ABB=ON  PLU=ON  TRANSPAREN? OR CLEAR?
L69      4 SEA SPE=ON  ABB=ON  PLU=ON  L49 AND L68
        D KWIC
L70      QUE SPE=ON  ABB=ON  PLU=ON  IR OR INFRARED? IR VISIBL?

L71      11 SEA SPE=ON  ABB=ON  PLU=ON  L49 AND L70
        D KWIC
L72      QUE SPE=ON  ABB=ON  PLU=ON  WAVELENGTH OR NM OR
        NANOMET? OR NANO?(A) (METER OR METRE)
L73      5 SEA SPE=ON  ABB=ON  PLU=ON  L49 AND L72

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FILE 'REGISTRY' ENTERED AT 15:15:06 ON 22 JUL 2010
D SCA L4

FILE 'HCAPLUS' ENTERED AT 15:15:13 ON 22 JUL 2010

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L74      306712 SEA SPE=ON  ABB=ON  PLU=ON  L4
L75      5 SEA SPE=ON  ABB=ON  PLU=ON  L49 AND L74
L76      31 SEA SPE=ON  ABB=ON  PLU=ON  L52 OR L54 OR L56 OR L58
        OR L61 OR L63 OR L65 OR L67 OR L69 OR L71 OR L73
L77      1 SEA SPE=ON  ABB=ON  PLU=ON  L1 AND L76
        D KWIC
L78      QUE SPE=ON  ABB=ON  PLU=ON  PY=<2003 NOT P/DT
L79      QUE SPE=ON  ABB=ON  PLU=ON  (PY=<2003 OR PRY=<2003 OR
        AY=<2003 OR MY=<2003 OR REVIEW/DT) AND P/DT
L80      22 SEA SPE=ON  ABB=ON  PLU=ON  L76 AND (L78 OR L79)
L81      86 SEA SPE=ON  ABB=ON  PLU=ON  L49 AND (L78 OR L79)
L82      QUE SPE=ON  ABB=ON  PLU=ON  PARTICL? OR MICROPARTICL?
        OR PARTICULAT? OR DUST? OR GRIT? OR GRAIN# OR GRANUL?
        OR POWDER? OR SOOT? OR SMUT? OR FINES# OR PRILL? OR
        FLAKE# OR PELLET? OR BB#
L83      QUE SPE=ON  ABB=ON  PLU=ON  SIZ?(3A)L82
L84      6 SEA SPE=ON  ABB=ON  PLU=ON  L81 AND L83
L85      25 SEA SPE=ON  ABB=ON  PLU=ON  L80 OR L84
        SAV TEMP L85 SHE124REG/A
        D SCA

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FILE 'STNGUIDE' ENTERED AT 15:23:28 ON 22 JUL 2010

FILE 'HCAPLUS' ENTERED AT 15:24:14 ON 22 JUL 2010

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L86      19 SEA SPE=ON  ABB=ON  PLU=ON  (?PHOSPHAT?(3A)?HYDROX?)
        AND L85
L87      25 SEA SPE=ON  ABB=ON  PLU=ON  L86 OR L85
        SAV TEMP L85 SHE124HCP/A
        D SAV
        DEL SHE124REG/A
        D QUE L87
        D L87 1-25 IBIB ED ABS HITSTR HITIND

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